MacWEEK

05.13.96 | *The Newsweekly for Macintosh Managers* | VOLUME 10 NUMBER 19

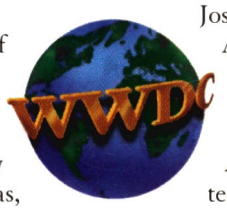
IMMEDIA

to turn XPress into a multimedia and Web tool

See GA, Page 14

Platform struggles test hearts, minds

By Clifford Colby



"The visionary part of Apple has to end," said Terry Kunysz, president of longtime Macintosh developer Casady & Greene Inc. of Salinas, Calif. "They have to be practical. Microsoft [Corp.] gives you all you need; Apple says you have to figure this stuff out for yourself. Wrong."

Kunysz's words were echoed by many developers heading into this week's Apple Worldwide Developers Conference in San Jose, Calif. Anxious about Apple's plans for the platform, developers said they will carefully study the road map Apple executives and technologists unroll this week to see if there is a route for them.

The developers conference comes at a time when uncertainty about Apple and the fight for shelf space is pulling at the hearts and minds of Mac developers. Many said the shadow of Mi-

See WWDC, Page 75

PBs, Performas due for repair; Apple foots bill

By Joanna Pearlstein

Apple last week pulled most of its currently shipping PowerBooks out of the retail channel and announced a repair program for many PowerPC-based consumer and education systems.

In a May 8 bulletin, Apple asked dealers to return all PowerBook 190, 190cs, 5300, 5300c, 5300ce and 5300cs systems in inventory; those machines will be repaired and then shipped back to dealers.

Apple also announced a repair program for the Power Mac 5200/75 LC and 5300/100 LC as well as Performa 5200, 5215, 5300, 6200, 6205, 6214, 6216, 6218, 6220, 6230, 6290 and 6300 systems. Those machines will be repaired by dealers rather than returned to Apple.

In tandem with the recall, Apple is extending affected systems' warranties. Apple will repair problems in recalled ma-

See Repairs, Page 76

Macs to divide along CPU lines

By Joanna Pearlstein

Apple is reportedly working on a plan to bisect the desktop Power Macintosh line into two streams later this year: high-end systems will use the upcoming PowerPC 604e chip and entry-level models will be based on the PowerPC 603e.

Sources close to the company said Apple wants to use the fastest PowerPC processors wherever possible to better compete with Intel-standard PC systems.

At the center of Apple's high-end plans is a group of CPUs code-named Montana, a project that reportedly aims to use 604e processors running at speeds as high as 225 MHz. One source said Apple chose the code name because Montana "is the only state without a speed limit."

The Montana line is expected to cost between $2,500 and $5,000, depending on speed and configuration, and is scheduled for a November introduction under the Power Mac Pro name. But sources cautioned that IBM Corp. of Armonk, N.Y., and Motorola

See Montana, Page 77

Apple to take the high road

POWER MAC PRO:

- Code-named Montana
- High end
- 166- to 200-MHz PPC 604e
- Due in late 1996
- Alternative I/O
- Multiple processor support

Adobe jumps into Net

Standards offered for Web graphics

By MacWEEK staff

Adobe Systems Inc. said it expects to "change the face of Internet computing forever" with a broad, open-ended strategy it unveiled last week for integrating its products and graphics technologies with the Internet.

The Mountain View, Calif., company's strategy centers on three aspects: driving new graphics standards for the Web, delivering Internet authoring and publishing tools, and expanding Internet printing capabilities. Partnerships with companies such as Sun Microsystems Inc. and Netscape Communications

See Adobe, Page 74

Adobe's Internet strategy

PRODUCTS AND TECHNOLOGIES:

- Bravo: 2-D imaging model and API
- OpenType: Font standard combining TrueType and Type 1
- Vertigo: Interactive multimedia authoring tool
- Web Presenter: Persuasion for the Web
- PrintMill: Internet printing architecture

PARTNERSHIPS:

- JavaSoft: Licensed Bravo API
- Microsoft: Partners in OpenType, ActiveX
- AT&T: To deliver Adobe products and technologies to WorldNet customers

Digerati makes movies

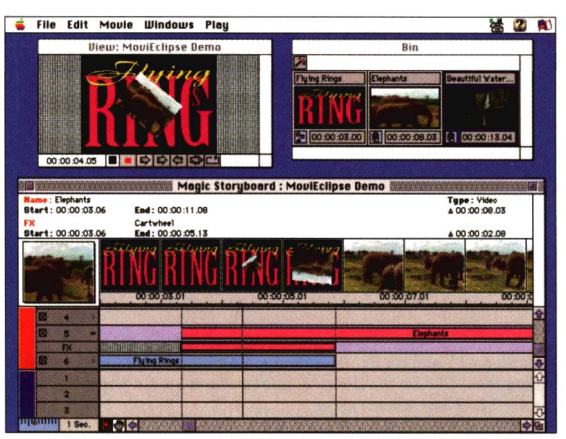
By Kelly Ryer

Video editing's steep resource requirements may fall into the shadows thanks to Digerati Multimedia Inc. Its MoviEclipse video-editing application requires no special hardware, offers "almost real-time" editing and costs only $249.

Aimed at entry-level users, MoviEclipse will offer six video tracks and three audio tracks on a time line. Users will be able to edit by dragging video clips and adding transitions, which can include wipes, fades, spins, dissolves and video-in-video effects.

Users will begin by loading

See MoviEclipse, Page 76



Offering entry-level digital video users a bit of movie magic, MoviEclipse can generate a multiclip sequence automatically via its Autoload button.

Developers to gain API in QTVR 2.0

By Kelly Ryer

Apple this week will announce a rollout schedule and product details for Version 2.0 of QuickTime VR, which is due in final form this August.

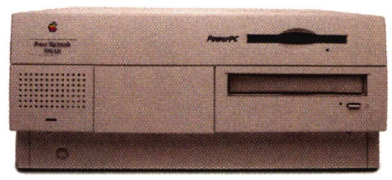
Key elements of the update to Apple's virtual-reality authoring tools are an API, audio support, integration of Internet links, better tools and compositing of several types of media elements.

- **Programmers API.** The interface will let developers add playback of QuickTime VR files to their applications. The API will allow for display and manipulation of panoramas and objects; transition behavior between QuickTime

See QuickTime VR, Page 76

NEWSPAPER SECOND CLASS

AT SOME POINT, PEOPLE ARE GOING TO STOP COMPARING US TO APPLE.



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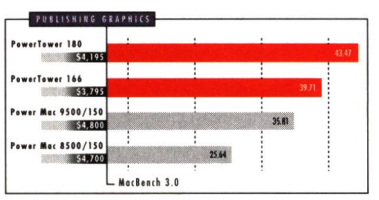

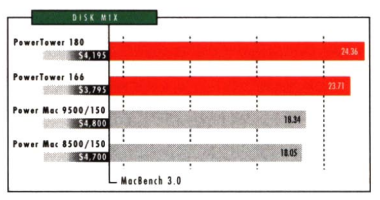

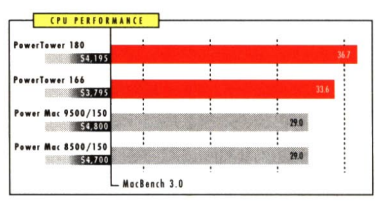

Power Computing has designed the world's fastest Mac OS system - again. Based on the PowerPC 604 running at a blazing 180 or 166MHz, PowerTower is more than 20% faster and more than 20% less expensive than even the fastest Apple - the PowerMac 9500/150. Power Computing's new PowerTower is the highest-performing, most reliable Mac OS system available today for serious power users.

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— MacWEEK Magazine 4.29.96 ♦♦♦♦

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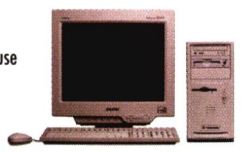

PowerTower 166 Hot Pick
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- 32 MB RAM (256 MB Max)
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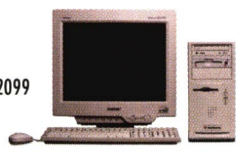

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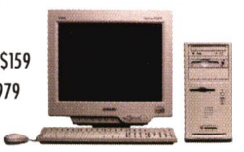

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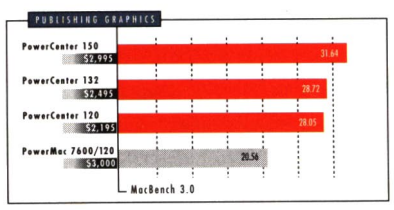

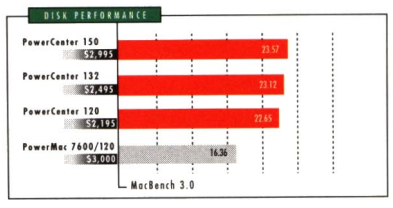

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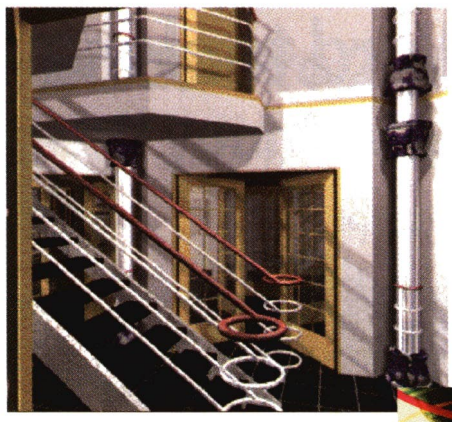
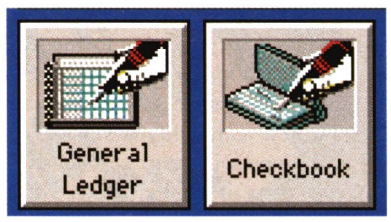
20 GATEWAYS

CodeWarrior 9 leads flood of new WWDC tools • ActiveX to take aim at Navigator plug-ins • Pictorius to embed Internet servers • Engst on the trouble with Web browsers



From the ground up: Architrion remodels its CAD and drafting software. Architrion VI now handles 2-D and 3-D objects simultaneously. See GA, Page 14.

Transferring data to CD-Recordables is a good solution to the storage dilemma. See Solutions, Page 39.



MYOB Accounting 6 gives small offices a big payoff. See Reviews, Page 36.

29 REVIEWS

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39 SOLUTIONS

CD-R drives have new value for Mac users: software distribution, mass storage and more.

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MACWEEK INSIDER MATTHEW ROTHENBERG

Adapt together or die

When Apple CEO Gilbert Amelio caps his first 100 days in office with a widely publicized Apple Worldwide Developers Conference appearance, he will be framing the next evolutionary step in the Apple saga.

The Darwinian metaphor is an apt one, considering that Apple's survival in this dog-eat-dog industry owes as much to fortuitous preadaptation as any divine plan.

In evolutionary biology circles, preadaptation is the theory that certain characteristics evolved in response to one set of historical pressures but proved useful for another. Apple today is weathering a new Ice Age, and Amelio plans to save the platform from extinction by capitalizing on its existing strengths and realigning the entire company around the Internet.

Amelio's stewardship will try to echo the happy accident that years ago made Apple the leader in the infant field of desktop publishing. But it will take more than just willpower to compel lightning to strike twice on the same platform. It will also require learning from past mistakes by pursuing a truly symbiotic relationship with key developers.

Sifting through the fossil record, I'm struck by Apple's passive role in the genesis of DTP. Jobs & Co. created a plug-and-play machine equipped with WYSIWYG fonts, SCSI ports and networking capabilities; all these proved essential to the development of the kind of networked, peripherals-laden workstations that DTP required.

However, it was Adobe Systems Inc. that created PostScript and Aldus Corp. that developed PageMaker. Apple's greatest contribution on that front was to create a hugely expensive (for the time) networkable laser printer that relied on Adobe's output capabilities to let users throughout a site print high-quality layouts created on their Macs.

Apple didn't develop the Mac with DTP in mind; it was simply in the right place at the right time with the right technology. Preadaptation at work.

Furthermore, what happened after Apple "invented" DTP? Instead of recognizing its role as one pillar of a revolution that relied on many development partners, Apple got caught up in its own hubris as a creator of new technologies. Look at Apple's battles with Adobe, which made the company a strange font bedfellow with Microsoft Corp., possessed it to buy a PostScript clone and drew it to invent QuickDraw GX instead of leveraging the strengths of Display PostScript.

Apple's Internet strategy will focus on deals. It's a sign of corporate maturity.

Now Apple is poised to leverage on its strengths in another field it didn't create or even foresee: the Internet. Apple didn't invent Eudora or Anarchie; it's just a happy coincidence that the platform's networking and scripting strength gave Apple an early leg up in this booming client market.

Apple's dumb luck is in even greater evidence on the server side, where the Mac is a stronger minority than it has any right to be — thanks largely to WebStar, which Apple also never planned. However, the Macintosh's greatest hope is on the content-creation side, thanks to the happenstance that made it the DTP leader.

Apple's continued efforts to make the Mac good for paper publishing and digital video translated into results on the Web, through third-party tools, such as Adobe PageMill. Symbionts adapt together, it seems.

Larry Tesler's announcement of Apple's Internet strategy will reportedly focus on deals and partnerships rather than new Apple products. While some will argue that this marks a retreat from the technology leadership role that Apple has assumed in the past, I say sharing is a healthy sign of corporate maturity.

The last thing the Mac industry needs right now is a cocky Apple trying to reinvent the Web or inflaming the HTML tag wars. Instead, Apple needs to use its corps of engineers to help all Mac vendors reel in the biggest fish to come along in eons. □

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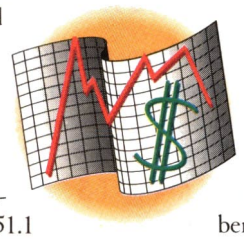
MacWEEK (ISSN 0892-8118) is published weekly, with the exception of Jan. 1, July 1, Sept. 2, and Dec. 23 and 30, by Ziff-Davis Publishing Co., 1 Park Ave., New York, N.Y. 10016. Single-copy price, including postage: $6. One-year subscription rate: U.S., $125; Canada/Mexico, U.S. $225; International, U.S. $350 (airmail). All orders must be prepaid. Direct **subscription inquiries** to Customer Service Department, MacWEEK, c/o JCI, P.O. Box 10634, Riverton, N.J. 08076-0634; (609) 786-8230. **Changes of address** require that a new application be filled out completely and include both new and old addresses. Allow four to six weeks for processing. We periodically make lists of our customers available to carefully screened mailers of quality goods and services. If you do not wish to receive such mailings, please let us know by writing to us at Customer Service Department, MacWEEK, P.O. Box 10634, Riverton, N.J. 08076-0634. **Postmaster:** Send address changes to MacWEEK, P.O. Box 10634, Riverton, N.J. 08076-0634. Periodicals postage paid at New York and additional mailing offices. Printed in U.S.A. Canada Post International Publications Mail Product (Canadian Distribution) Sales Agreement No. 410667. Canadian GST registration number is R140496720.

SyQuest crashes; execs swapped

By David Morgenstern



With margins and sales sliding, SyQuest Technology Inc. last week reported a big loss and a major management shake-up.

The Fremont, Calif.-based company lost $51.1 million ($4.49 per share) on net revenues of $47.4 million in the second quarter of 1996. In 1995, the company had a second-quarter net income of $3.7 million. The latest quarter's revenues were down 38 percent from a year ago.

According to SyQuest, $3.6 million of the loss was a restructuring charge against the cost of laying off about 1,500 employees. After its first-quarter loss in February, the company said it would close offshore plants, outsource products and cut staff (see 02.12.96, Page 1). SyQuest's losses for the first half of fiscal 1996 come to $84.9 million.

In an attempt to right itself, the listing company swept its top deck of executives.

Edwin Harper was named as the new president and chief operating officer; previously he was chief executive officer and president of Colorado Memory Systems Inc. SyQuest founder Sayed Iftikar remains chief executive officer.

Other additions include John Luhtala, vice president and chief financial officer, and Michael Field, senior vice president and corporate secretary.

Elected to the board of directors as vice chairman in February, Edward Marinaro is now chairman. Longtime board member Robert Wilson resigned his position.

"They've really done nothing to fix things," said industry analyst Bill Frank, president of Augur Visions Inc. of Los Altos, Calif. "If they can't find a partner in two months they'll be in Chapter 11."

SyQuest said it does not expect to be profitable in the current third quarter. It recently hired an investment banker to help find more credit, but analysts said that may be difficult given the company's slim working capital and shareholder equity. However, insiders said SyQuest has several million shares of stock that could bring in up to $50 million to give the company more breathing room.

SyQuest blamed its fiscal problems on increased sales of its low-margin EZ135 removable media drive and declining sales of higher-margin products.

"They don't have a product that they can make any money on," said Frank, who also counted the widespread acceptance of Iomega Corp.'s Zip drive in SyQuest's traditional markets. "It's impossible to find a graphic artist without a Zip." □

Word tools say 'Ahh' to OpenDoc

Opal, WorldWrite to accept parts

By Clifford Colby

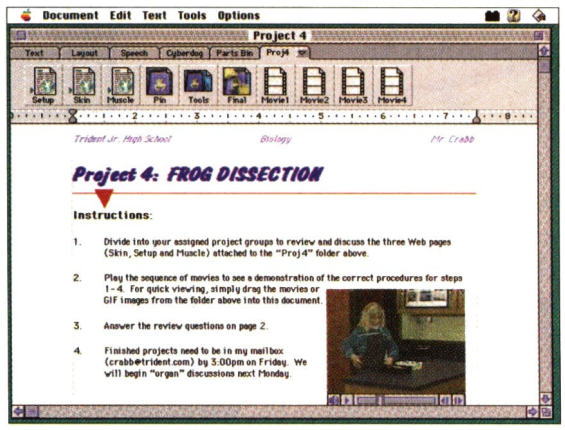
Two companies plan to take the wraps off OpenDoc word processors at this week's Apple Worldwide Developers Conference in San Jose, Calif.

Digital Harbor's program, codenamed Opal, is based entirely on Apple's component-software technology, so it can be placed inside other OpenDoc-aware applications. WorldSoft Corp.'s WorldWrite is a more traditional tool that will become an OpenDoc container in its next release.

Due this summer, Opal will offer a full range of word processing features. A new capability called Click and Type will let a user click on the edges or center of a document and start typing immediately; Opal will automatically align the text to the left or right margin or to the center.

Because it is an OpenDoc part, Opal can be embedded into container programs. But the program is also a so-called root part, so it can incorporate other OpenDoc components, such as charting or QuickTime modules. Digital Harbor said it expects to bundle Cyberdog, Apple's suite of OpenDoc Internet tools, with Opal.

The program will feature folderlike tabs above the ruler that organize tools and files. Standard tabs will cover text and layout functions, Cyberdog parts, and text-to-speech tools, along with customizable tabs for OpenDoc parts from third-party developers and user-created files.


Document Edit Text Tools Options
Project 4
Text
Layout
Speech
Cyberdog
Parts Bin
Proj4
Setup
Skin
Muscle
Pin
Tools
Final
Movie1
Movie2
Movie3
Movie4
Trident Jr. High School
Biology
Mr. Crabb
Project 4: FROG DISSECTION
Instructions:
1. Divide into your assigned project groups to review and discuss the three Web pages (Skin, Setup and Muscle) attached to the "Proj4" folder above.
2. Play the sequence of movies to see a demonstration of the correct procedures for steps 1-4. For quick viewing, simply drag the movies or GIF images from the folder above into this document.
3. Answer the review questions on page 2.
4. Finished projects need to be in my mailbox (crabb@trident.com) by 3:00pm on Friday. We will begin "organ" discussions next Monday.

Digital Harbor's upcoming word processor root part will let users embed other OpenDoc parts, such as a QuickTime movie viewer, and tailor project tabs to list user-specified documents.

Former members of the WordPerfect Mac development team formed Digital Harbor in February. The company said it plans to initially ship a Power Mac-only version of Opal; Microsoft Windows and OS/2 versions will follow. Digital Harbor has not decided if it will do a version for 680x0 Macs and has not set pricing.

WorldSoft's multilingual word processor, WorldWrite, will open up to third-party OpenDoc parts when an update ships later this year.

According to the company, the application will display PICT images of OpenDoc elements on machines without OpenDoc installed. Documents will keep all OpenDoc-specific data so when they are on an OpenDoc-equipped Mac, the parts will still be editable.

WorldSoft said the OpenDoc-enabled version of WorldWrite will cost $149 to $189, similar to the current version.

In related news, Claris Corp. will give away at WWDC an unsupported version of ClarisWorks 4.0 that has been modified to function as an OpenDoc container. A major upgrade with OpenDoc is due by the end of the year.

Digital Harbor of Lindon, Utah, is at (801) 785-2115; fax (801) 785-2414; info@dharbor.com; http://www.dharbor.com.

WorldSoft Corp. of Saratoga, Calif., is at (801) 350-9490 or (800) 225-9299; fax (801) 350-9491; http://www.worldsoft.com. □

IBM delivers two licensing deals

By David Morgenstern

On the day it announced a deal to license the Mac OS from Apple, IBM Corp. introduced its first customers for sublicenses: Datatech Computer Inc. and Tatung Co.

IBM's East Fishkill, N.Y.-based Microelectronics Division is pushing Mac OS sublicenses along with the PowerPC chip to increase its RISC processor business (see 05.06.96, Page 4). The first takers both build Intel-standard PCs in Taipei, Taiwan.

Datatech, a $250 million company based in City of Industry, Calif., sells several lines of PC desktop machines; the company's Taipei division will produce the PowerPC clones.

Tatung, a $4.3 billion company with headquarters in Taipei, manufactures PC systems and workstations, including a PowerPC Reference Platform box and SunOS clones.

Licensing the Mac OS to such Taiwanese companies is "a credible business plan with real first steps to build an infrastructure for PowerPC Platform machines," said Pieter Hartsook, editor of The Hartsook Letter, an Alameda, Calif.-based Macintosh industry newsletter.

According to Michael Attardo, general manager of the Microelectronics Division, IBM will set up technical support centers in Taiwan, the United States and Europe to handle its Mac OS licensees.

In addition, he said, the company will train its field application engineering teams to handle "the transition to an open Mac environment." □

SoftArc buys out Delphic for its Internet expertise

By James Staten

SoftArc Inc.'s FirstClass online conferencing system may gain new Internet capabilities, thanks to the company's acquisition last week of Internet tools maker Delphic Software Inc.

Both companies are privately held; the terms of the acquisition were not disclosed. Delphic of Redlands, Calif., is the developer of several Internet gateways for FirstClass and the AL*I Internet Server, a stand-alone Web, FTP, SMTP (Simple Mail Transfer Protocol), Gopher, Network News Transfer Protocol (NNTP) and domain name server. Delphic said Markham, Ontario-based SoftArc plans to incorporate the functions of the gateways and AL*I into a forthcoming version of FirstClass.

"We essentially sold our technology to SoftArc and will be moving up [to Canada] to help incorporate it into their products," said Mike Marshburn, Delphic president. However, SoftArc Vice President Scott Welch said his company will not directly integrate Delphic's technology but will instead use the company's expertise to increase FirstClass' Internet features.

Delphic has seven employees, but Marshburn said only he and two or three others will relocate to SoftArc's headquarters; the other employees will be laid off.

SoftArc said it will provide technical support for registered Delphic products, and owners of Delphic's Internet e-mail gateway for FirstClass will be offered an upgrade to SoftArc's $495 FirstClass Gateway for SMTP/NNTP. □

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Lexmark shines printer line

By David Morgenstern

Lexmark International Inc. recently delivered new configurations of its laser printers, revamped its lineup and trimmed prices for several models.

The $2,749 Optra Lxn+, an Ethernet version of the Optra Lx+, replaces the $3,249 Optra Lxi printer. It comes standard with 8 Mbytes of RAM and a 500-sheet input tray. It can print legal- or letter-size pages up to 16 pages per minute at 300 by 600 dpi and 8 ppm at 1,200 dpi, Lexmark said.

The Optra Rn+ is a network model of the Optra R+ printer and comes with 4 Mbytes of RAM, an Ethernet port and a 200-sheet input tray. The company said the model has print speeds of 16 and 8 ppm with resolutions from 300 to 1,200 dpi.

Both black-and-white printers run on 25-MHz AMD RISC processors and can hold up to 64 Mbytes of RAM. They provide Lexmark's PostScript Level 2 and HP PCL 5 emulations.

The company trimmed prices for its 4039 10plus, Optra R+ and Lx+ models to $1,249, $1,549 and $2,299, respectively. The Optra R+ now comes standard with 4 Mbytes of RAM, double the amount previously offered.

In addition, Lexmark shipped an $869 high-capacity 1,500-sheet input feeder for the R+ and Lx+ series printers.

Lexmark also released its Optra C PRO, a high-performance configuration of its 600-dpi color laser printer (see 10.02.95, Page 6). The $7,999 model includes 32 Mbytes of RAM and Ethernet ports.

In other news, the company this month shipped its 24-ppm Optra N Model 245. The $4,199 printer comes with a 50-MHz Intel i960 processor, 16 Mbytes of RAM and an Ethernet card (see 04.01.96, Page 6). The $3,399 Model 240 includes 4 Mbytes of RAM; networking is optional.

A 1,500-sheet feeder option adds height to the Optra printer family.

Lexmark International Inc. of Lexington, Ky., can be reached at (606) 232-2000 or (800) 891-0331; fax-back (606) 232-2380; http://www.lexmark.com. □

For the record

In The Mac Manager column for 04.29.96, the owner of ExpressNet was misidentified. EarthLink Network Inc. owns the product.

Excel challenger a simple spreadsheet

By Mark Hall

Simplicity didn't earn Microsoft Excel its dominant market share, but Casady & Greene Inc. thinks a simpler alternative can find new users in the spreadsheet arena.

The company's Let's Keep It Simple Spreadsheet, which shipped last week, eschews the traditional technique of entering complex formulas into cells (see 01.29.96 Page 6). The software offers palettes from which users drag and drop predefined formulas onto empty worksheets. Users then link them with lines, as in a flowchart, to execute calculations.

Casady & Greene said it expects a street price of $125 for the spreadsheet; it also includes a $25 rebate coupon in each box. Users of competitive products can sidegrade for $79.95 and receive the rebate.

Taking on Microsoft Excel, which claims more than 90 percent of the Mac spreadsheet market, has its risks. Jeff Silverstein, editor and publisher of the Software Industry Bulletin of Stamford, Conn., said: "Excel is the standard. I'm not sure there's a need for anything other than a niche product."

Casady & Greene President Terry Kunysz said: "If you're going to butt heads against Microsoft, you're going to get a lot of bruises. We're focusing on a different kind of user."

Silverstein also doubted the wisdom of shipping a spreadsheet that cannot read Excel files. But Kunysz said the program's graphical nature makes exchanging formulas with Excel too difficult.

Beta user Larry Sherman, program planner at Stanford Linear Accelerator in Menlo Park, Calif., said, "I don't use it for the same set of problems that I do with Excel."

Casady & Greene Inc. of Salinas, Calif., can be reached at (408) 484-9228; fax (408) 484-9218; c&g@casadyg.com; http://www.casadyg.com. □

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Windows Software Development	Data Acquisition
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AppleScript	Motor Control

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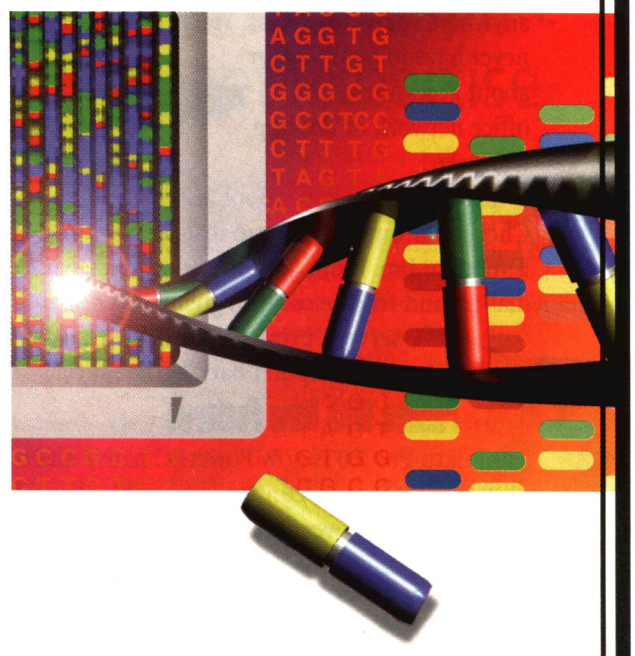

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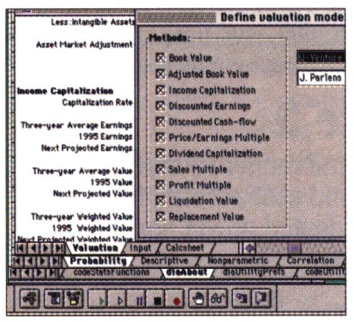
Spreadware updates apps

Business modeler, stats package ship

By Mark Hall

Spreadware may augment its income line by helping users establish the bottom-line worth of companies. In April, Spreadware shipped an updated version of its Business Valuator as well as a network edition of Statistical Menu.



To establish a company's value, users can choose from 10 common metrics, including dividend capitalization, replacement value and discounted cash flow.

Spreadware Business Valuator 2.0 lets users construct models of business performance that establish the worth of a company for investment and acquisition purposes.

Business Valuator uses 10 common valuation metrics, including book value, income capitalization, price-earnings multiple and true value.

The metrics can be weighted, used together or run independently. Users assign percentages to the different metrics to give preference to one aspect of business performance over another.

Business Valuator 2.0 costs $89 through July 31 and $149 thereafter.

The company also released a server version of Spreadware Statistics Menu, an add-on to Microsoft Excel. Statistics Menu adds 120 functions to the spreadsheet for nonparametrics, correlations, t-tests and other statistical operations. Version 4 for networks is $229 per user and $499 for a five-user license.

Statistics Menu 4 network adds LAN administration tools for installing the software from either the server or client. It also maintains user preferences on the client side to ease management.

Spreadware of Palm Desert, Calif., can be reached at (619) 772-1758; fax (619) 772-1759; spreadware@aol.com. □

FWB to uncrate new RAID storage systems

By David Morgenstern

FWB Inc. in June will ship new arrays with removable drive modules. The SledgeHammer•Pro systems will offer two, four or eight bays. They will come with FWB's new $530 PCI Ultra SCSI Differential JackHammer card and will use FWB's RAID ToolKit Version 1.9 for data mirroring and striping.

The arrays will come with Seagate Fast and Wide SCSI-2 modules; Seagate Wide Ultra SCSI modules will ship later this year.

The two-bay, single-channel $5,159 4-Gbyte and $6,289 8-Gbyte models have sustained data transfer rates of 12.7 Mbytes per second, FWB said. The four-bay arrays come in capacities of 8, 16 and 17 Gbytes and cost $9,439, $11,709 and $9,879, respectively. The eight-bay arrays have capacities of 32.8 and 34.8 Gbytes, priced at $24,039 and $20,369, respectively; rackmount versions cost $300 less.

Users can add a second differential SCSI card, which brings the 16-Gbyte four-bay model sustained data transfer rates of 12.7 and 31.7 Mbytes per second with single and dual channels, respectively.

FWB Inc. of Menlo Park, Calif., can be reached at (415) 833-4616; fax (415) 833-4655; sales@fwb.com; http://www.fwb.com/. □

Sampo unleashes new displays

By Joanna Pearlstein

Shoring up its line of smaller displays, Sampo Technology Inc. recently released two new 15-inch monitors and one new 17-inch monitor.

The $429 AlphaScan 520 and the $379 AlphaScan 500 have 14-inch viewing areas and dot pitches of 0.28mm. Both monitors can display images at resolutions up to 832 by 624 pixels at 75 Hz.

Sampo's new 17-inch offering is the company's first display that uses Mitsubishi Electronics America Inc.'s Diamondtron aperture grille tube. The $949 KM-760 has a viewing area of 16.1 inches and an aperture grille pitch of 0.25mm. It can display Mac images at resolutions up to 1,280 by 1,024 pixels at 75 Hz.

All three displays comply with Energy Star and MPR II guidelines; all are covered by a two-year limited warranty.

Sampo Technology Inc. of Norcross, Ga., can be reached at (770) 449-6220; fax (770) 447-1109; sampocgm@aol.com. □

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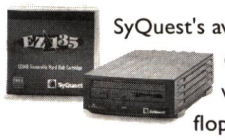

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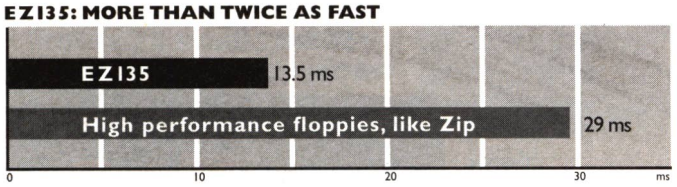

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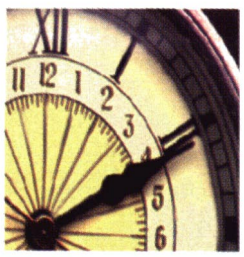

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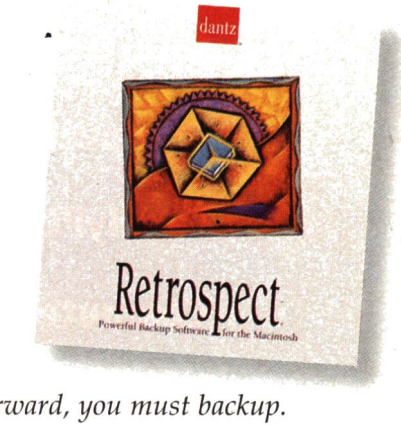

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See You Online!

Utils improve file access for Mac-Windows users

By David Morgenstern

Giving a boost to cross-platform file transfers, vendors recently released new Windows utilities and updated versions.

▶ **Software Architects Inc.** last month updated its Here & Now utility. Version 2.0 of the $99.95 program supports Windows 95 and can read and write a greater variety of Mac-formatted media, the company said.

The update now lets users launch Mac files from the desktop, Windows Explorer or an application, the company said. Users of Version 1.0 can update for $39.95.

▶ **Insignia Solutions Inc.** recently shipped MacTransfer, a $49 Windows 95 file utility for Mac floppies. It reads and writes Mac files to and from the desktop as well as in applications and Windows Explorer; it can also format Mac disks, Insignia said.

Users can order and download the software from Insignia's Web site for $39.95.

▶ **Optima Technology Corp.** recently updated its $49 XChange utility. Version 1.2 adds Windows NT to existing Windows 3.x and Windows 95 support.

The software reads and writes a variety of Mac media and tape cartridges using Optima's DeskTape format. The update is free to users of Version 1.0.

Software Architects Inc. of Bothell, Wash., can be reached at (206) 487-0122; fax (206) 487-0467; salessoftarch.com.

Insignia Solutions Inc. of Santa Clara, Calif., can be reached at (408) 327-6000 or (800) 848-7677; fax (408) 327-6272; faxback (800) 876-3872; maccs@isinc.insignia.com; http://www.insignia.com.

Optima Technology Corp. of Irvine, Calif., is at (714) 476-0515; fax (714) 476-0613; marketing@optimatech.com; http://www.optimatech.com/optima/. □

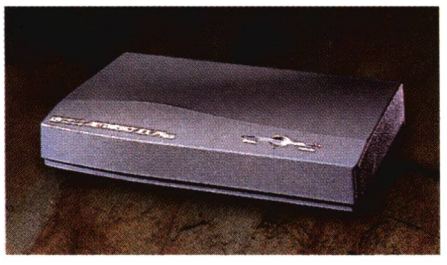
HP delivers entry-level print server

Hewlett-Packard Co. last week released its JetDirect EX Plus, a low-cost, multiprotocol print server for Ethernet networks.

Available now, the $349 device replaces the $499 JetDirect EX. The JetDirect EX Plus features 1 Mbyte of flash memory, which can be used to update protocol and OS changes for the print server on the network, the company said.

Like its predecessor, the JetDirect EX Plus supports more than a dozen network operating systems and protocols, including AppleTalk, Novell NetWare and Microsoft Windows NT. It offers a pair of Ethernet network ports and a bidirectional parallel interface for the printer.

Hewlett-Packard Co. of Palo Alto, Calif., can be reached at (800) 533-1333; fax-back (208) 344-4809 or (800) 333-1917; http://www.hp.com/go/network_city. □



Hewlett-Packard's new JetDirect EX Plus print server for Ethernet networks sells for $349 and includes 1 Mbyte of flash memory.

Video PCI price cuts

Diamond Multimedia Systems Inc. recently cut prices up to 25 percent on its Javelin Video 3000 product line of PCI graphics accelerator boards for Power Macs.

The Javelin Video 3240XL, which comes with 2 Mbytes of video RAM, now costs $299, down from $399; the 3400XL, with 4 Mbytes of VRAM, is $469, down from $569.

The company attributed the price reductions to improved manufacturing processes and a decrease in memory prices.

Diamond Multimedia Systems Inc. of San Jose, Calif., is at (408) 325-7000; fax (408) 325-7070; http://www. diamondmm.com. □

TopSoft offers free batch-processing utility

By Marty Cortinas

TopSoft Inc. put batch-processing power on the Mac desktop in April when it released FilterTop 1.0, a free utility.

FilterTop allows users to process as many as 1,000 files through a series of filters, the company said. Users program FilterTop by dragging and arranging filters in the application's main window; the company said filters can be arranged into virtually any combination.

Filters can, for example, alter or combine contents, search for and replace specific words or phrases, produce line-count or word-count reports, convert file types, and route files to specified folders.

FilterTop 1.0 can be downloaded free at ftp://ftp.topsoft.org/Visitors/FilterTop/FilterTop-1.0.sit.hqx.

TopSoft Inc. of Salt Lake City can be reached at info@topsoft.org; http://www.topsoft.org. □

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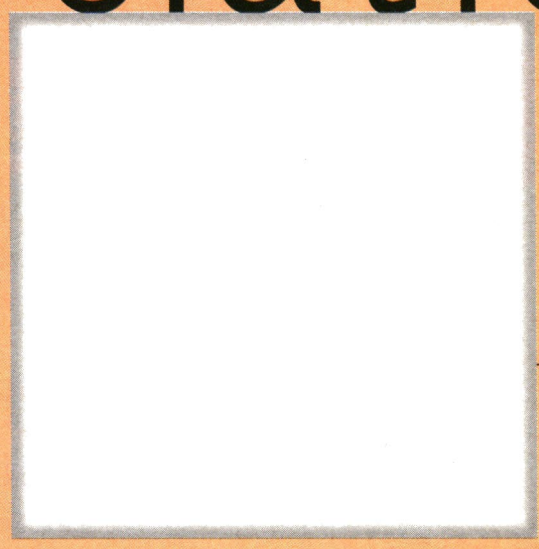

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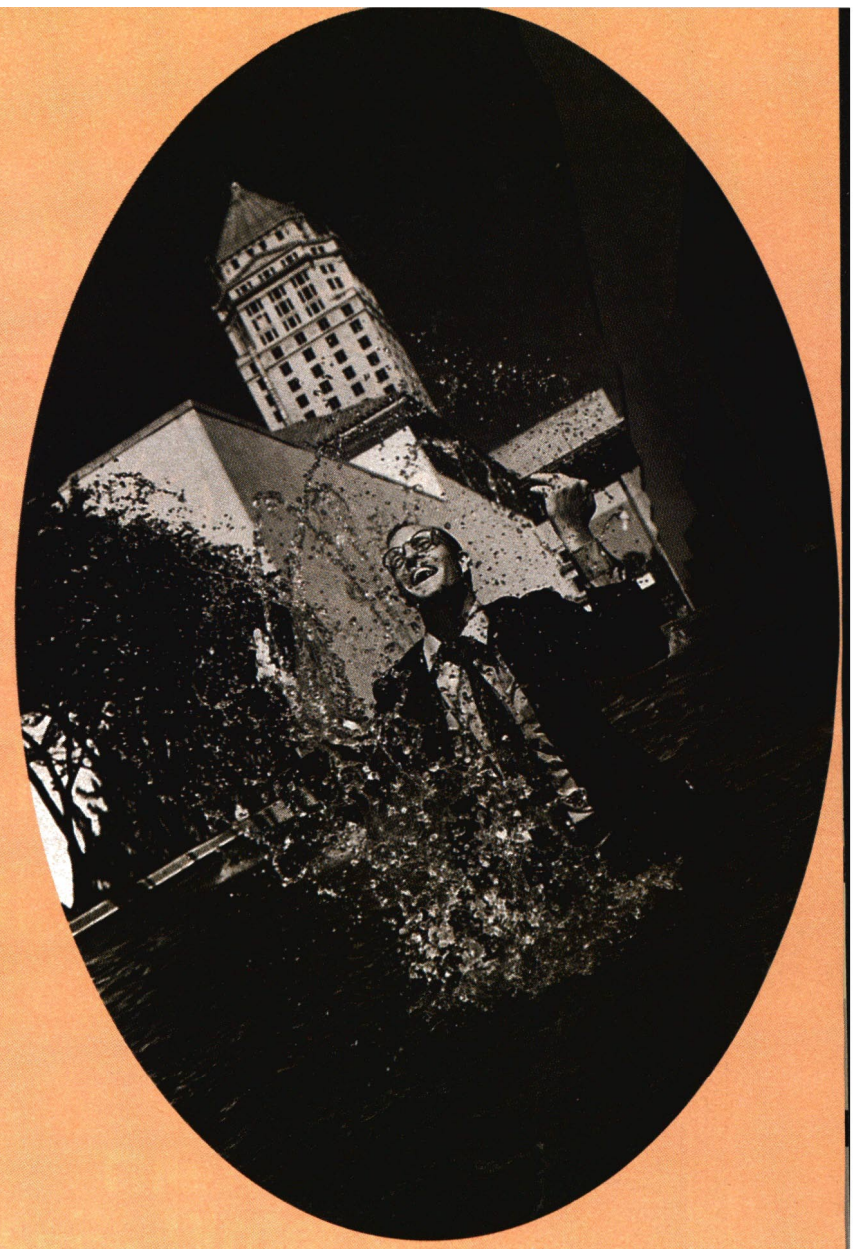

1

You open a worksheet.
You type "Jan."
You use AutoFill
And the rest of the months
Are filled in for you.
Automatically.

2

You enter numbers.
You click AutoFilter
And the data you want to see
Rises to the top
So you can focus on
What you need to focus on.

3

You want to slice
And dice your numbers.
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To see them
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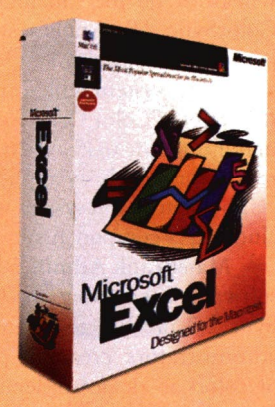
You want.

4

You see
Patterns form.
You come
To understand.
You get it.



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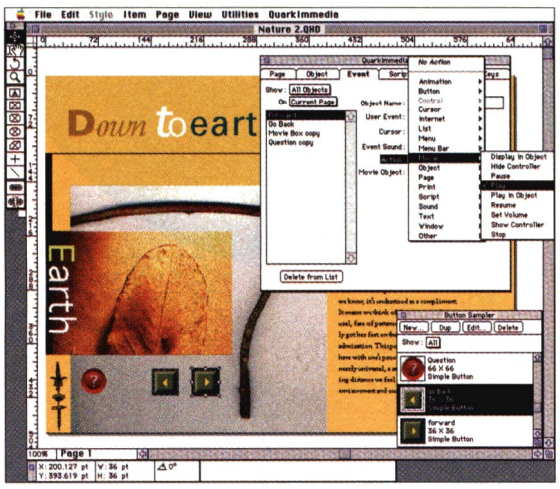
WHERE DO YOU WANT TO GO TODAY?™

Immedia plugs XPress docs into multimedia

By Kelly Ryer

QuarkXPress users are accustomed to a steady stream of new plug-in capabilities, but the granddaddy of all QuarkXTensions is nearing completion.

Quark Inc. is readying QuarkImmedia, a massive $995 XTension that will add multimedia authoring tools to Version 3.32 or later of the company's $995 page-layout package.



Immedia gratification: With QuarkImmedia, users of XPress won't have to go to a separate application for multimedia authoring.

Slated to ship this summer, the Immedia package will contain design software as well as a free stand-alone viewer that can be embedded in projects. Quark said the program will let XPress users add multimedia functions such as buttons, sound, video, transition effects, hot spots, animation and interactivity to their documents.

Like XPress, Immedia's open architecture will enable third parties to write XTensions for the software. Since Immedia's authoring tools plug into XPress, users will be able to use XPress' layout tools.

Immedia will employ a page-layout metaphor for creating interactive projects. A palette will let users define items on XPress' pasteboard as objects and assign user events and actions to them.

See Immedia, Page 16

Cubase 3.0 can edit audio and MIDI data globally. The tool palette in the software's Arrange window lets editors rearrange sound sequences without opening separate editors.

Steinberg cues up sound-editing app

By Rebecca Gulick

Longtime Mac audio developer Steinberg North America Inc. last week brought its audio-production software up to speed with a major upgrade. Cubase 3.0 puts the features of a digital recording studio on the desktop, the company said.

Version 3.0 features Virtual Studio Technology, a new proprietary audio-processing scheme, and integrates MIDI, musical-notation and digital-audio capabilities. With no additional hardware, the $349 standard version lets Power Mac

See Cubase, Page 16

Color-matching app goes on networks

MatchLink system to handle vector art

By Matthew Rothenberg

Praxisoft Inc. in June will tone up its Mac color-management software with a comprehensive network system for vector-based art.

The MatchLink Color System will draw on the capabilities of ColorSync 2.0, Apple's system-level color-management extensions. The system will also mark the debut of Color Compass 2.0, a major upgrade to Praxisoft's current color-matching application.

The MatchLink system will include three components:

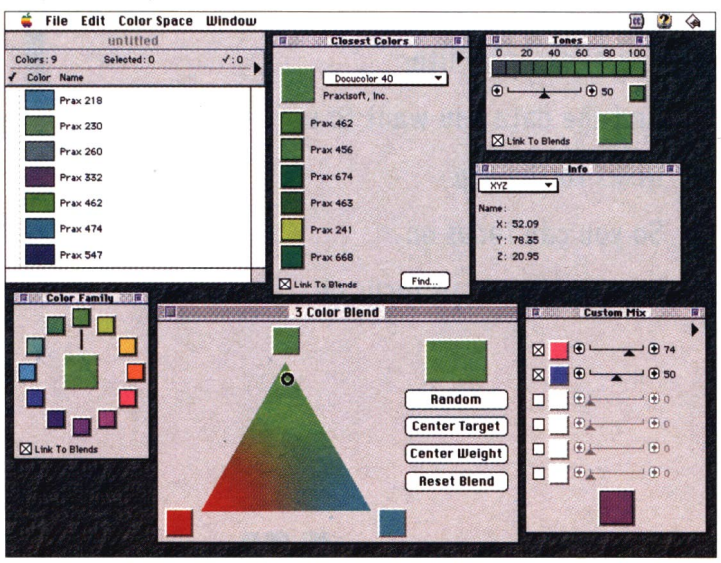
- **MatchLink Admin,** a $3,500 software package that uses ColorSync 2.0 profiles to let systems administrators create a palette of colors in device-independent XYZ space for each output device on a network. These colors will be available via a networked color picker or through the Color Compass software, Praxisoft said.

Administrators will be able to edit the palettes remotely, the company said.

- **Color Compass 2.0,** a new version of the software that will let designers select colors from the networked palettes. The application will match individual displays to the colors within the MatchLink palettes, the company said.

Color Compass 2.0 will cost $329 for one user, and Praxisoft will

See Praxisoft, Page 16



Color me networked: MatchLink Admin will use ColorSync 2.0 profiles to let administrators create a palette of colors for each output device at a site.

BAGH rebuilds Architrion

By Kelly Ryer

Sometimes it's easier to rebuild than to remodel; following this rule of thumb, BAGH Technologies Inc. has completely revamped Architrion, its architectural CAD and drafting software.

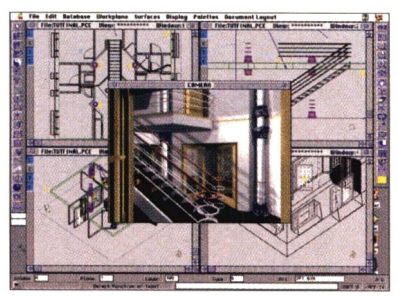
The $4,495 Architrion VI, which shipped in April, features a new database structure that can handle 2-D and 3-D objects simultaneously. Earlier versions of Architrion used separate modules and tool sets for 2-D and 3-D geometry.

Architrion VI offers enhanced 3-D modeling tools, including NURBS (nonuniform rational B-splines) for unique shapes and support for Boolean operations. Designs can be ray traced or rendered in several new shading modes.

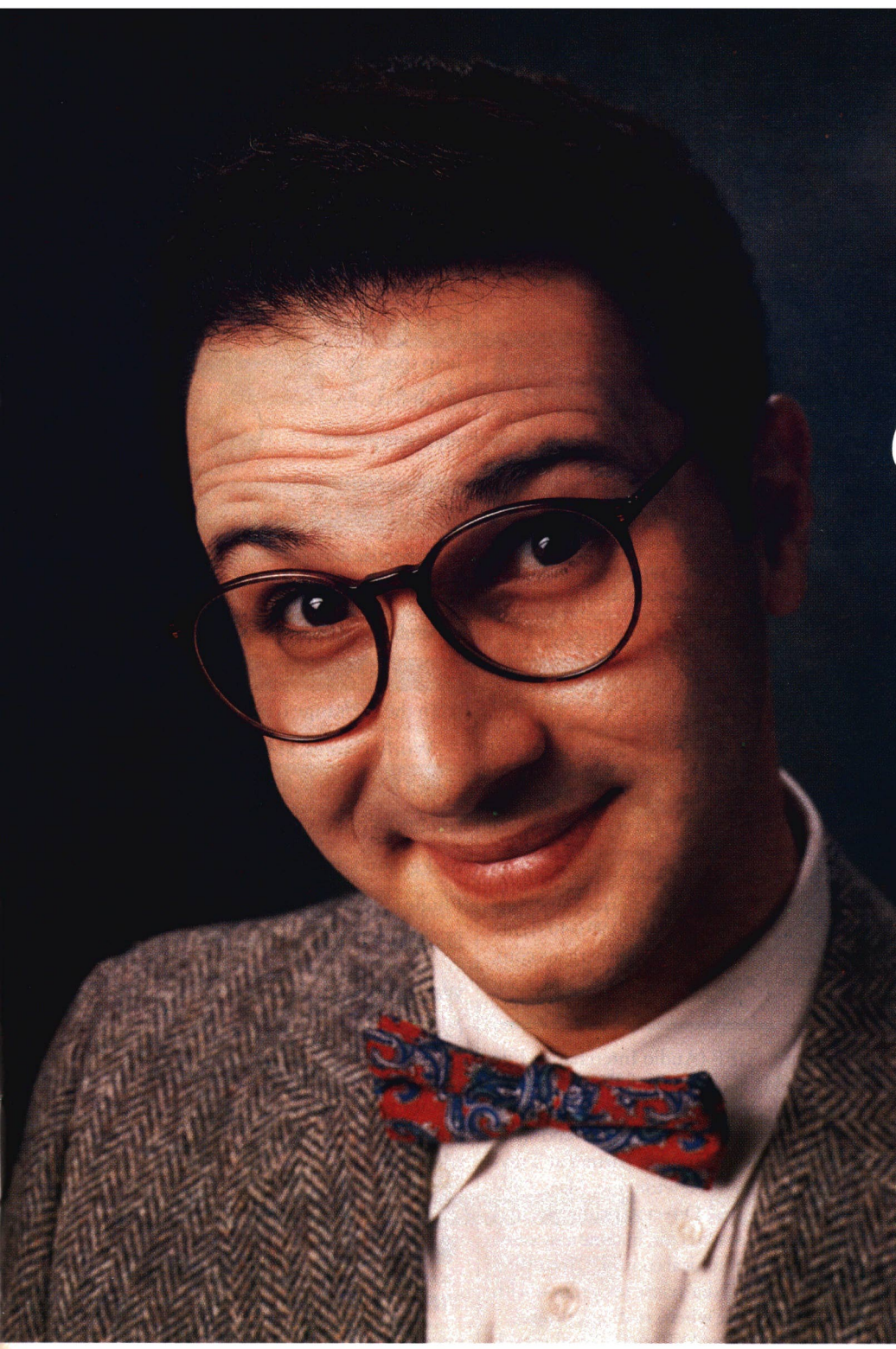
A new feature called Historics lets users build design elements with flexible components. For example, users can define column heights that adjust automatically when they change the ceiling. Section and plan drawings can be extracted automatically from a 3-D model. Changes in a 2-D section affect the model and vice versa. Models can be imported or exported in DXF (Drawing Interchange File) or DWG, an AutoCAD drawing file format.

The program runs only on Power Macs, and the company recommends 40 Mbytes of RAM. Identical versions of Architrion VI are available on Irix, from Silicon Graphics Inc.; Microsoft Windows NT; and Windows 95 platforms, BAGH said. Upgrades from versions 5.7 or 5.8 are $795; upgrades from Version 5.5 or earlier are $1,295.

BAGH Technologies Inc. of Montreal is at (514) 273-0522 or (800) 561-0522; fax (514) 273-3059; marketing@architrion.com; http://www.architrion.com.



BAGH went back to the drawing board to develop Architrion VI, a rewrite that integrates 2-D and 3-D modes and adds automatic extraction of sections and plans.



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Adobe PostScript

Cubase

From Page 14

users create up to 32 tracks of CD-quality digital audio and perform up to 128 equalizations in real time.

MIDI Mixer, Cubase's virtual mixing console, provides real-time control with programmable faders, knobs and sliders; support for up to 1,024 mixer objects; snap-shot automation; and synthesizer and effects templates. The software offers an arsenal of digital effects, including chorus, reverb, pan and delay. Cubase 3.0 also provides a plug-in interface for external audio processing.

Users can sequence MIDI and create an unlimited number of MIDI tracks. The upgrade also features the Interactive Phrase Synthesizer, an arpeggiator that lets users play MIDI through filters to achieve different sounds.

Cubase 3.0 automates fader movements, pans, equalization settings and effects parameters, Steinberg said. The software can perform both destructive and nondestructive editing and includes features such as time and pitch correction, cross fades, and fade in and out. Users can edit audio and MIDI data globally, Steinberg said.

The Arrange window includes a tool palette that lets editors shuffle sequences without having to open individual editors. It also provides different track classes, such as MIDI, audio, mixer and tape.

Besides standard Key, List and Score editors, users can edit MIDI data instantly in the Drum editor to map drum sounds to different instruments. Among the six quantization methods are Groove and Match Quantize, which shift beats to capture the feel of live performance.

Cubase supports professional synchronization standards, such as MIDI Time Code and MIDI Machine Control, as well as OMS II, the Open Music System from Steinberg Soft- und Hardware GmbH of Hamburg, Germany, and Opcode Systems Inc. of Palo Alto, Calif.

The software offers graphical remote controls for tape machines and hard disk recorders. Teamed with Steinberg's own TimeBandit 2.0, $399 time- and pitch-correction software, Cubase's Cue Trax tempo editor can analyze and quantize audio to fit a MIDI track.

While the basic version of Cubase 3.0 offers a score editor, Cubase Score 3.0, a $549 package, adds professional score layout and publishing capabilities. It can export a score as an EPS file.

Cubase Audio xt, priced at $799, supports additional digital audio hardware, such as ProTools and Audio Media from Digidesign Inc. of Menlo Park, Calif.

Cubase Audio xt's plug-in interface lets editors use external plug-ins for audio processing. Besides Steinberg itself, Digidesign and KS Waves Ltd. of Tel Aviv, Israel, are among those making plug-ins that are compatible with Cubase, Steinberg said.

Steinberg North America Inc. of Chatsworth, Calif., is at (818) 993-4091; fax (818) 701-7452; info@steinberg-us.com; http://www.steinberg-us.com/. □

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Immedia

From Page 14

Actions might include playing sounds, opening other pages, or triggering videos or animations. An Engage command will let authors preview and test their sequences.

Immedia will also include scripting capabilities. Once users create a list of actions via pop-up menus, they will be able to attach the script to any interactive component.

An Internet control palette will let users connect their interactive documents to the Internet. For example, they will be able to create a hyperlink from URLs (uniform resource locators) to the Web or other sites with Immedia content. The Viewer application will connect to the Internet directly and browse Immedia files. If users want to connect to a URL that is not in Immedia format, the software will launch a Web browser.

Quark said it has no concrete plans at this time to build a Netscape Navigator plug-in for its viewer. "A plug-in limits us too much," said Susan Friedman, Immedia product manager. "We can't take over their menu or keep our moveable palettes and windows."

Immedia files will be able to be read only with the viewer, but users will be able to optimize their files for playback from CD-ROMs, hard drives or the Internet. The Internet option will break the file into several small elements, the first of which can be played back while the rest are being downloaded. Using proprietary technology, Immedia will stream sounds in real time over the Web, Quark said.

Immedia will rasterize and anti-alias most text when users create a project. However, text that the viewer can alter, such as editable, searchable, indexable or scrollable text elements, cannot be anti-aliased.

Users of Immedia will be able to import QuickTime video elements as well as audio files in snd, AIFF (Audio Interchange File Format), AIFF-C, .AU and .WAV formats.

"As a designer, QuarkImmedia makes multimedia less intimidating," said beta tester Diana Loeb Traylor, partner at Traylor Multimedia of Newtonville, Mass. "We use [Macromedia] Director primarily, and we're big fans of Director, but one easy comparison is typographical control." According to Traylor, Immedia's close integration with XPress saves time when creating a project.

"I grew up using [XPress]," Traylor said. "It's bringing multimedia to me as a designer, rather than me going out to find an authoring tool." Designers won't have to know "all that painful scripting," she added.

Users of XPress Version 3.2 or higher will be able to purchase Immedia for $495 for a limited time after it is introduced.

Quark Inc. of Denver can be reached at (303) 894-8888 or (800) 676-4575; fax (303) 894-3399; http://www.quark.com. □

Praxisoft

From Page 14

offer packs for 10 to 250 users. Upgrades from Color Compass 1.1 will cost $49.

▶ **MatchLink Extenders,** a set of plug-in modules for color management of vector-based graphics within QuarkXPress, Adobe Illustrator and PageMaker, and Macromedia FreeHand. The MatchLink Extenders will cost $329 for a single user; 10- to 250-user packs will be available.

In addition, Praxisoft said it will deliver in September a $1,855 PostScript optimizer that will adjust the color of PostScript files via the MatchLink palettes.

Praxisoft Inc. of Ashburn, Va., can be reached at (703) 729-3391 or (800) 557-7294; fax (703) 729-6875; info@praxisoft.com; http://www.praxisoft.com. □

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World Games, $149, is PhotoDisc's latest CD-ROM collection of high-resolution photos. A $149 eight-disc set of background images is due this month. Phone (206) 441-9355 or (800) 528-3472; fax (206) 441-9379.

War etched in time. Judson Rosebush Co. Inc. and Wildside Press co-published the third collection in their Classic Steel Engravings series. Arms, Armor and Battles, $49.95, is a collection of royalty-free, high-resolution, anti-aliased TIFF images of 19th- and 20th-century engravings. Phone (212) 581-3000; fax (212) 757-8283; info@rosebush.com.

In the background. Image Club Graphics of Calgary, Alberta, a division of Adobe Systems Inc., recently released PhotoGear Texturework, a $59.99 collection of 30 high-resolution background images. PhotoGear Old Country Collages, $79.99, another set of backgrounds, will ship in July. Phone (403) 262-8008 or (800) 661-9410; fax (403) 261-7013; http://www.adobe.com/imageclub/.

Digital views. Image Farm Inc. of Toronto recently released five CDs of royalty-free digital photographs, including Arizona Desert, Berlin Walls and Streets of London. The discs cost about $99 each or $399 for all five. Phone (416) 504-4161 or (800) 438-3276; (416) 504-4163; image-info@imagefarm.com.

— By Rebecca Gulick

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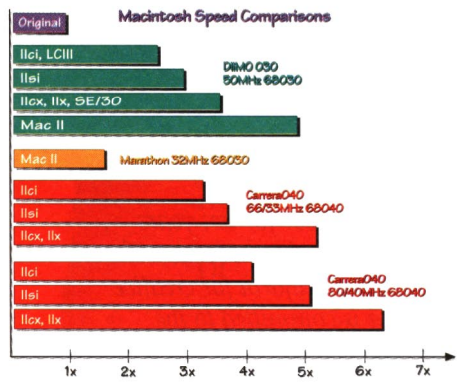

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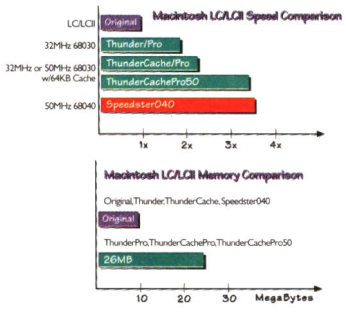
The ThunderPro and ThunderCachePro accelerators are the same as the Thunder and ThunderCache accelerators with the addition of four SIMM slots to break the limiting 10MB RAM barrier associated with the LC and LCII. They let you upgrade your memory up to 26MB. The ThunderCachePro is also available at 50MHz for more speed.

The MicroMac Speedster040 accelerators offer impressive Quadra performance for your LC or LCII with a 50/25MHz 68040 CPU and optional FPU.



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ThunderCache 32MHz 68030 w/32KB Cache	$199.99	#69220	$249.99	#69221
ThunderPro 32MHz 68030 w/4 SIMM Scks	$199.99	#69222	$249.99	#69223
ThunderCachePro 32MHz 68030 *w/32KB Cache & 4 SIMM Scks*	$249.99	#69224	$299.99	#69225
ThunderCachePro 50MHz 68030 *w/32KB Cache & 4 SIMM Scks*	$249.99	#69226	$299.99	#69227
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"Corel is excited about the business prospects we see for supporting the Macintosh platform. Over the next few months, we will be releasing CorelDRAW for the Mac, as well as continuing to enhance OfficeSuite and our many other products for the Mac. We think the Mac will play a major role in our future."

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"Brøderbund Software remains strongly committed to the Macintosh platform. Over the years, we have delivered many exciting and market-leading products for Macintosh, and it is an important component of our strategy today. The Macintosh provides a quality experience that matches up well with the quality we always strive to deliver to our customers."

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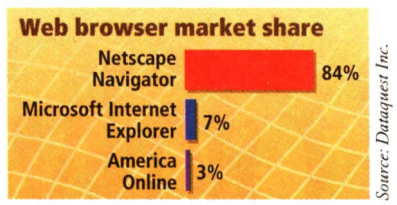


Host of tools at WWDC

CodeWarrior 9, Java tools on tap

By Clifford Colby

Developers hungering for Java, OpenDoc and Internet tools should leave this week's Apple Worldwide Developers Conference in San Jose, Calif., sated.

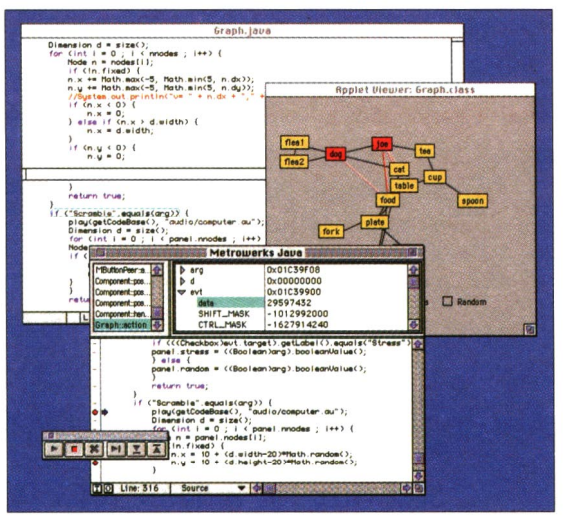
▶ **Metrowerks Inc.** intends to ship CodeWarrior 9. The update to the Austin, Texas, company's $399 development environment for C, C++ and Pascal will integrate Java, Sun Microsystems Inc.'s programming language. It will include 680x0 and PowerPC Java compilers and source-level debugging. Metrowerks said it is working with Mountain View, Calif.-based Sun's SunSoft Division to develop just-in-time compilers (JITs) for PowerPC and 680x0 Macs, which compile Java code into PowerPC or 680x0 machine code on the fly. Metrowerks said it plans to deliver the JITs later this year.

Java isn't the only addition to CodeWarrior. The update will add debugger support for a multiprocessor API from Flowery Branch, Ga.-based DayStar Digital Inc. and Apple's Developer Release 1 of Copland. It will also let users see System Object Model (SOM) objects in the debugger. Metrowerks is developing a Direct-to-SOM compiler as well.

OpenDoc and Internet developers will gain both PowerPart, a tool for creating parts in PowerPlant, and support for additional Internet networking classes. Metrowerks said users should be able to build full Internet servers in Code Warrior by the next release.

▶ **Apple** said it plans to release the next version of MacApp at the show. The update to Apple's application framework is expected to come with 30 new features, including QuickDraw GX printing, a QuickDraw

See Tools, Page 24



Metrowerks' CodeWarrior 9 will provide a source-code debugger for Java programming and a hierarchical class browser.

TECH ANALYSIS

ActiveX, Navigator to do summer battle

By James Staten

Microsoft Corp. will expose Macintosh users to its ActiveX technology this summer when it releases a public beta of Internet Explorer 3.0 for the platform.

ActiveX is the Redmond, Wash.-based company's cross-platform architecture for delivering multimedia over the Internet. It promises to exceed the capabilities of browser plug-ins for Netscape Navigator and Java applets while leveraging hundreds of existing OLE Controls under Microsoft Windows. For Mac users, ActiveX may be an overdue enhancement to the neverfully implemented OLE.

The initial vehicle for ActiveX will be Explorer 3.0. Currently available on Windows 95, the Mac beta of Version 3.0 is due in June. The update will also include HTML style sheets, Sun Microsystems Inc.'s Java language, Netscape Communications Corp.'s JavaScript and embedded TrueType fonts. (Before this release, Microsoft will issue an update to Version 2.0 that will implement Navigator frames.)

ActiveX, introduced in March at the Microsoft Professional Developers Conference in San Francisco, is a derivative of OLE (see 03.25.96, Page 22). The Mac version of the technology will be composed of three pieces: a set of system extensions; ActiveX-compliant applications; and ActiveX Controls, formerly called OLE Controls.

ActiveX Controls are akin to Navigator plug-ins except they download and install automatically when needed, as do Java applets. Unlike Java applets, however, ActiveX code is precompiled for a specific platform and has access to all the capabilities of the underlying OS. Microsoft said it will ship an ActiveX plug-in for Navigator so controls can be used within Netscape's browser.

See Microsoft, Page 24

iSeek marks queries, links

By James Staten

Fans of Infoseek Corp.'s Internet search engine can now download a stand-alone utility that will query the database from the desktop.

The free iSeek application sends queries directly to the Infoseek database, then launches the user's browser to return the results.

Users can save frequent searches as bookmarks in an expandable window below the search bar. Hyperlinks can also be saved as bookmarks; users simply drag and drop them from the browser into the expandable window. Each bookmark can have one of 16 icons.

The iSeek utility is in public beta testing now and can be downloaded from http://www.infoseek.com.

Infoseek Corp. of Santa Clara, Calif., can be reached at (408) 567-2700 or (800) 781-4636; fax (408) 986-1889; info@infoseek.com.

Infoseek's iSeek is a stand-alone search and bookmark tool that lets users send queries to the Infoseek Internet index. Frequent searches as well as multiple bookmark files can be saved.

Pictorius to put Net into apps

By Joanna Pearlstein

Software developers will soon be able to embed Internet servers into their applications using tools due this summer from Pictorius Inc.

Debuting this week at the Apple Worldwide Developers Conference in San Jose, Calif., the company's Entrada family will comprise a group of free Internet servers and a new development tool, Entrada Net Builder.

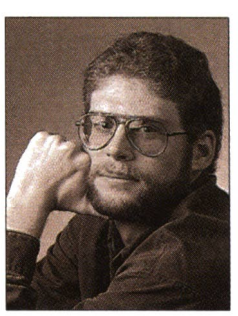
Web, e-mail, and FTP servers will be released this summer; domain name, Finger and network news servers will come later this year. The source code for each server will be included.

According to Pictorius, the Entrada servers will be based on its Peregrine client-server development environment and will replace Peregrine in the company's product line.

See Pictorius, Page 24

WORKING THE NET ADAM C. ENGST

Ignore beta releases of Web browsers



Last month's release of a number of updated Web browsers has prompted a frenzy of analysis and questioning. I'd like to point out how these programs are pulling the wool over our critical eyes.

In an effort to make product cycles seem shorter, Web browsers have brought the art of the so-called public beta to new depths. Never mind that many features don't work, almost no Web pages support the HTML extensions they introduce or that the programs crash if you look at them cross-eyed.

Netscape Communications Corp. and Microsoft Corp. are the primary culprits here, each releasing numerous betas while their finals still aren't stable. My advice: Ignore the betas. Let these companies do their own testing. The crashes, headaches and resultant moaning in online forums just waste time.

Have you noticed the kinds of features being added to Web

See Engst, Page 22

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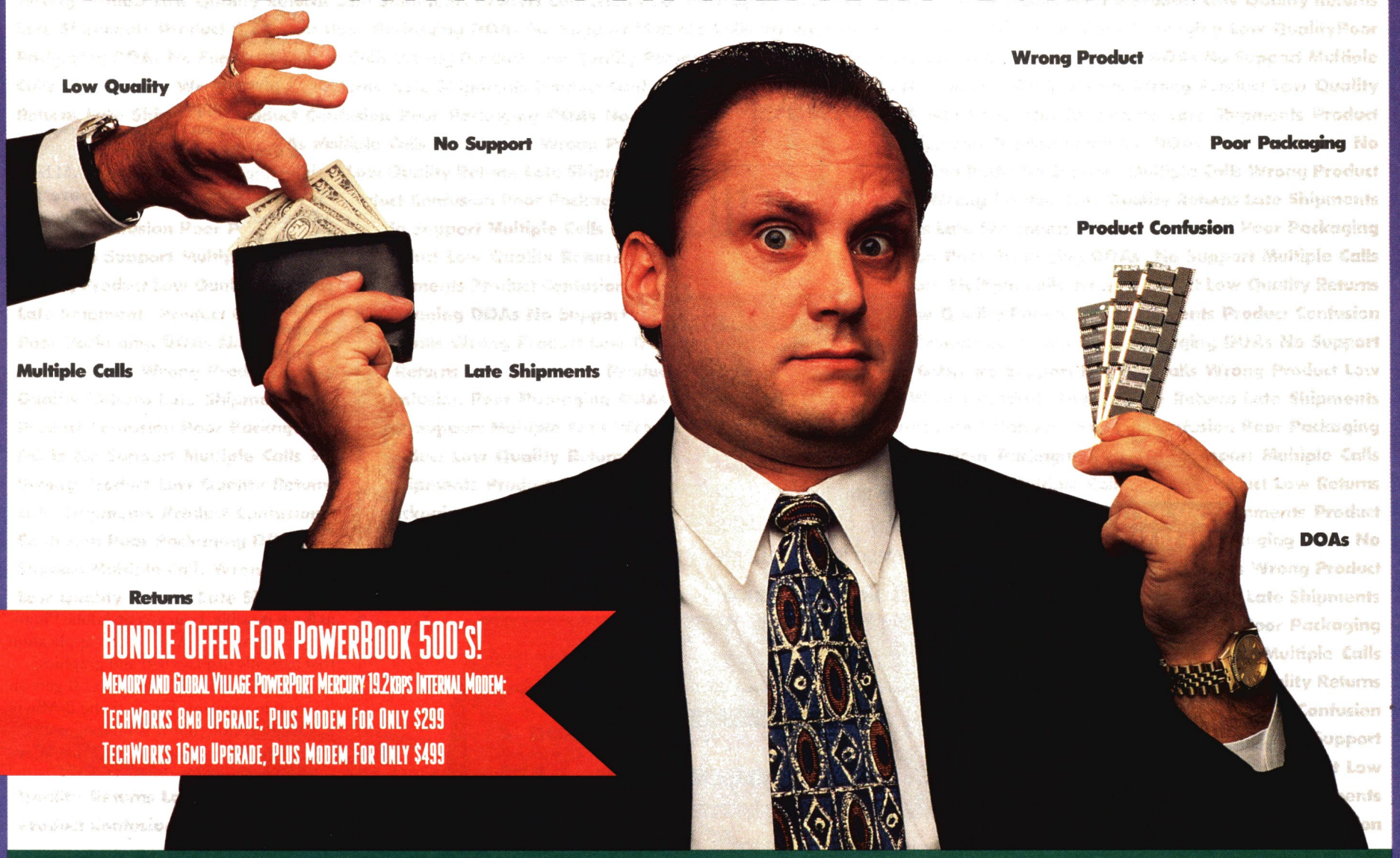

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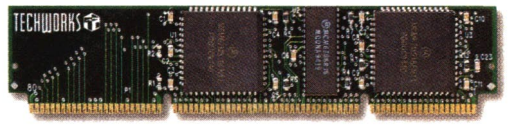

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MacDNS now available free

By James Staten

Apple released its domain name server software free to the public and announced plans for a fall update at this month's Internet World in San Jose, Calif.

The just-released software, MacDNS 1.0.2, is a primary domain name server (DNS) used to resolve Internet domain names, such as macweek.com, with TCP/IP addresses, such as 124.57.89.7. It also increases the amount of traffic a site can handle by letting administrators offload incoming Internet traffic to a set of redundant Mac servers.

Apple originally released the server software in January to owners of Apple Internet Server Solution bundles. The program now works with any Mac-based Web solution and can be downloaded from http://cybertech.apple.com.

The fall update, MacDNS 2.0, will add secondary DNS functions and Open Transport and PowerPC optimization, Apple said. The company has not set pricing for MacDNS 2.0. □

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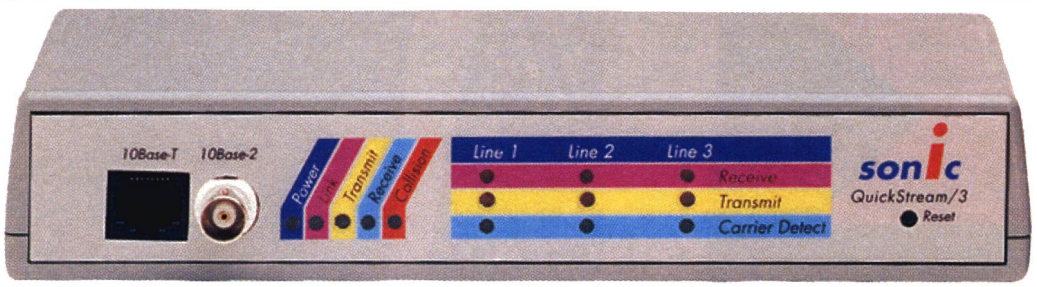

◆ **QuickStream/3** is an inexpensive, high performance PPP **Remote Access Server** which allows users to **connect** to your network from anywhere using standard modems or ISDN Terminal Adapters.

◆ That means telecommuters and travelling sales people can get up to the minute information from **databases**, send and receive **E-mail**, access group scheduling for meetings and even access **Internet** services such as **World Wide Web** (WWW), FTP, E-mail and News Groups.

◆ QuickStream/3 uses **Point to Point Protocol** (PPP), the industry standard protocol for cross platform remote access, so **Mac**, **PC** and **UNIX** users can all dial in and tap into the power of remote access. And since QuickStream/3 supports both **AppleTalk** and **TCP/IP**, the user doesn't have to learn new methods for accessing network services.

◆ Buy a QuickStream/3 between April 15 and June 30, 1996, and you will also receive the Dial-Out software upgrade, a $249 value, absolutely **free**. With the Dial-Out software, modems connected to the QuickStream/3 server can be accessed by users on the local network to send faxes, or to connect to online information services such as America Online, Compuserve, LEXIS/NEXIS or Internet Service Providers.

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Comparison done 3/19/96

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Engst

From Page 20

browsers? Navigator now has a full e-mail client and Usenet newsreader; the addition of these features to Internet Explorer can't be far behind.

NCSA Mosaic 3.0b1, from The National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign, supports MacInTalk, which although neat, isn't useful for most of us (other than the sight-impaired).

The result of this largess is RAM bloat. Netscape Navigator 2.01 will live in 5 Mbytes but prefers an 8-Mbyte allocation. Worse yet, the beta of Netscape Navigator 3.0 requires a minimum of 7 Mbytes but prefers 9 Mbytes. Is it my imagination, or is that more memory than many productivity applications demand?

Then there are plug-ins. Adobe Systems Inc.'s Acrobat Amber plug-in launches the Acrobat Reader, which eats another 3.1 Mbytes. I'd comment about Macromedia Inc.'s Shockwave plug-in, but Netscape Navigator crashes when I try to use it. It might be a conflict with Connectix Corp.'s RAM Doubler, but I need RAM Doubler to satisfy Netscape Navigator's cravings.

Microsoft Internet Explorer's 4-Mbyte allocation seems better, but it chews memory on the sly, ballooning your system heap as far as possible. I can accept Adobe Photoshop binging on RAM, but an application that basically displays text and graphics?

TradeWave Inc.'s MacWeb 2.0 gets an honorable mention for its svelte 2-Mbyte RAM allocation, but it is no longer available to the general population. TradeWave is instead selling it as the client for "Virtual Intranet" solutions (see story online at http://www.zdnet.com/macweek/mw_webedge/extra6.html).

Another example: Two basic features in almost every Mac application are copy and paste. Yet two modern Web browsers, MacWeb 2.0 and NetManage Inc.'s new WebSurfer, don't allow you to select text and copy it. Want to do research on the Web? Better hope you don't need to copy a bit of text from a Web page. Utterly unacceptable.

Where should browser developers concentrate their efforts? I'd like to see more effort go into the basic Web browsing interface rather than pointless features. For example, frames are almost unusable in Netscape Navigator 2.0 because you can't use the Back button to backtrack within a framed site.

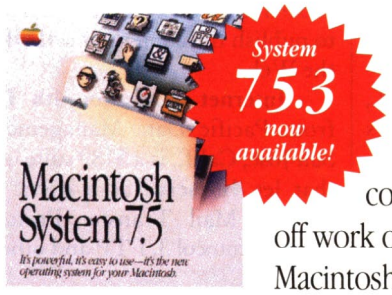
At least Netscape had the sense to put the Back button, the most commonly used interface element, on the left-most side of the tool bar. WebSurfer hides it in the middle of the tool bar. Navigator also gets points for letting you enter "apple" in the Location field and end up at www.apple.com.

There hasn't been a serious interface innovation since the original NCSA Mosaic. Just imagine what we'd get if Kai Krause of MetaTools Inc. designed a Web browser? □

Adam C. Engst is editor of TidBITS and author of "Internet Starter Kit for Macintosh." He can be reached at interq@macweek.com or http://www.tidbits.com.

Nelson needs to get on the net, Freiman can't find a file, and Peterson's forgotten his password. Again.

Let's talk System 7.5



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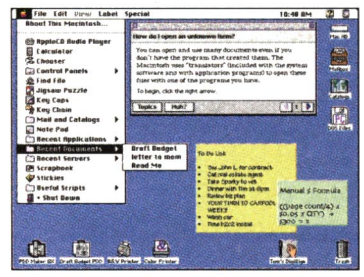

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Tools

From Page 20

3D viewer and a new memory manager.

Developer Release 5 of OpenDoc is also expected to ship. DR5 will contain Version 1.0.4 of OpenDoc and the next version of OpenDoc Development Framework, an application framework for the component architecture. Apple said it expects to include in the release a demo version of the OpenDoc-enabled ClarisWorks.

DR5 will also come with a set of OpenDoc pieces for getting users started with OpenDoc. The bundle, called Kick Start, will include viewers for several key Apple technologies — such as QuickTime, QuickTime VR and QuickDraw 3D — and text and drawing editors. Apple said it will make the OpenDoc source code available to developers shortly after the show.

Apple also said it expects to have the golden master of Cyberdog available on its Web site for the show. DocBuilder, a container application for building Cyberdog documents, will come with the suite of Internet tools. Apple will also release versions of its C/C++ and Assembler compilers for use with CodeWarrior.

- **Motorola Inc.'s** RISC Processor Division will show off its next round of C/C++ compilers. New to Version 3.0 of Motorola's $299 C/C++ Software Development Kit are compilers that can be used in Metrowerks' and Symantec Corp.'s development environments. The Motorola division, based in Austin, also updated its tools for Apple's Macintosh Programmer's Workshop by including support for precompiled headers and several optimizations to improve performance. The SDK includes the MPW environment; optimized math libraries; C/C++ compilers and assemblers for Metrowerks, Symantec and MPW environments; and Kuck & Associates Inc.'s Preprocessor, a source-level code optimization tool for C. A version with just the Metrowerks and Symantec portions is available for $99.
- **Symantec** said it expects to debut the 680x0 version of Café, its $99.95 cross-platform development environment for Java. The Power Mac version shipped in April. The Cupertino, Calif., company said it will also show its JIT, Java source-code debugger and Apple Guide tutorial. The update, due the week after WWDC, will also include bug fixes and Version 1.0.2 of Sun's Java Development Kit.
- **Natural Intelligence Inc.** will unveil a set of database-connectivity classes for its $299 Java development environment, Roaster. The Cambridge, Mass., company is bundling with Roaster a demo version of Mississauga, Ontario-based EveryWare Development Corp.'s Tango, a $495 tool for integrating SQL databases with Web servers. Natural Intelligence also intends to unveil a server-side Java plug-in for WebStar 1.3 Web server, due this month from Marina del Rey, Calif.-based Quarterdeck Corp.
- **NetManage Inc.** of Cupertino, Calif., will show the Power Mac version of its WinSock SDK. The $250 kit provides a single network API for Windows and Mac, which lets developers port the TCP/IP portion of Windows applications to the Mac. The SDK also comes with a single API for MacTCP and Open Transport TCP/IP.
- **6prime Corp.** of San Jose, Calif., will present OpenContent, a free library of code for converting applications into OpenDoc containers. □

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Server to the Macs...

Pictorius

From Page 20

Users will be able to deploy the servers independently or embed them into applications developed with the $649 Net Builder, an object-oriented development tool based on the company's Prograph CPX.

With Net Builder, users will be able to integrate the Entrada Net Servers into existing applications to allow them to distribute their data over the Internet. Programs written in C or C++ can be ported to Net Builder through Prograph CPX.

Net Builder will also let developers create agents that perform functions that normally require CGIs (Common Gateway Interfaces), such as image-type conversion and domain name server look-up. Users will be able to build CGIs with the tool as well. Several pre-built agents will be provided with the servers.

Pictorius Inc. of Halifax, Nova Scotia, is at (902) 492-2880 or (800) 927-4847; fax (902) 492-3409; info@pictorius.com; http://www.pictorius.com. □

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- **Image conversion**
- **Guest book**
- **Database look-ups**
- **Form processing**

ACI to deliver Internet tools bundle for 4D

By Clifford Colby

ACI US Inc. this week will ship a bundle of third-party tools for turning its 4th Dimension database into a Web client or server.

The 4D Web SmartServer bundle includes a one-user version of 4D; 4D Insider, a layout- and procedure-management tool; and the following add-ons, which are also sold separately:

- **DataWave** from DataCraft of Lakewood, Colo., is a $249 collection of layouts, procedures and externals that allow users to publish the content of a 4D database on the Web.
- **Internet Tools for 4th Dimension** from Pacific Data Management Inc. of San Jose, Calif., is a $189 suite of externals that let 4D serve as a client to SMTP (Simple Mail Transfer Protocol), Post Office Protocol 3, FTP and other TCP/IP services.
- **NetLink 4D,** a $189 add-on from Foresight Technology Inc. of Fort Worth, Texas, is a CGI (Common Gateway Interface) that hooks databases to a Web server.
- **Internet ToolKit,** also distributed by Foresight, provides TCP/IP connectivity for 4D applications and lets users convert a 4D server into a Web or FTP server. Internet ToolKit, priced at $395, was developed by JCA Télématique of Saint-Maur de Fossés, France.

ACI said the bundle is aimed at new customers, rather than existing 4D developers.

"I believe there are a lot of people interested in publishing something on the Web without having to hire a programmer," said Dave Batton, president of DataCraft. "With this package, people can publish a database on the Web without knowing HTML; all they have to know is 4D."

The 4D Web SmartServer bundle is priced at $1,195 for a single-user license; site licenses are available. Upgrades from 4D to the bundle are not available.

ACI US Inc. of Cupertino, Calif., is at (408) 252-4444 or (800) 881-3466; fax (408) 252-4829; d4444@applelink.apple.com; http://www.acius.com. □

Microsoft

From Page 20

Microsoft has a large installed base of developers that have already built their businesses around OLE. Microsoft said that on the Windows platform most OLE Controls can automatically be used as ActiveX Controls, allowing this large developers base to easily move to the Internet.

Even if recompiled or rewritten for the Mac OS, however, not all OLE Controls will work on the Mac. ActiveX will not provide the full suite of OLE 2.0 features, and Microsoft has not committed to bringing the entire suite over. According to Microsoft, ActiveX will require only the Common Object Model and Document Objects, a set of OLE interfaces built atop the standard OLE in-place activation interfaces. These will be delivered through the coming ActiveX system extensions, which are expected to be bundled with Internet Explorer 3.0.

For developers not currently writing OLE Controls, Microsoft hopes ActiveX will be popular because it will offer a broader set of APIs than Navigator plug-ins and will interoperate with a wider range of scripting languages. Navigator plug-ins can be controlled only with JavaScript, while ActiveX Controls will respond to Visual Basic Script, JavaScript and AppleScript, as well as direct Control-to-Control communications.

Rajiv Aggarwal, president of Totally Hip Software Inc. of Vancouver, British Columbia, said Navigator's plug-in architecture provides only a single API with a small set of routines that can be called, whereas nearly every routine in an ActiveX Control can be made available to other programs and scripts. "Basically you can expose everything about an ActiveX Control," Aggarwal said.

Mark Hayes, software architect at NetManage Inc. of San Diego, agreed that ActiveX provides higher-level functions than Navigator plug-in architecture. But, he said, Navigator's API is being enhanced to address this issue and has the advantage of already being a cross-platform standard. □

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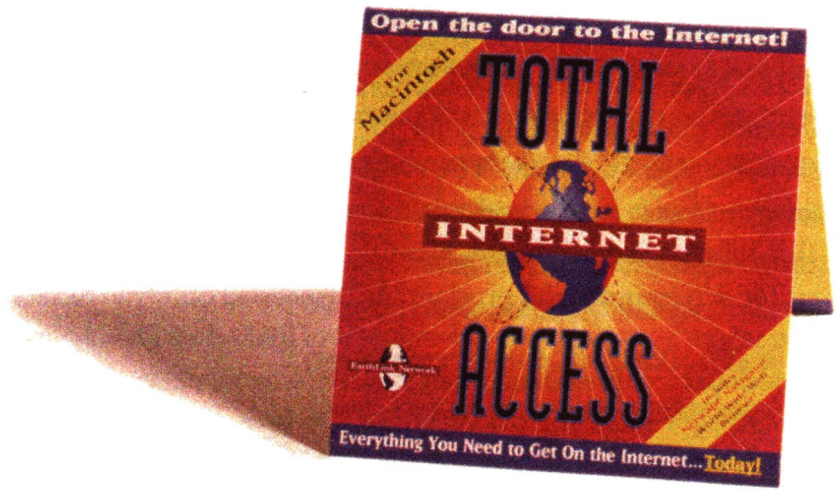

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BPA INTERNATIONAL

Beyond 100 days

This week's Apple Worldwide Developers Conference marks a turning point for Apple in the Age of Amelio. The event comes fortuitously at the end of CEO Gilbert Amelio's first 100 days at the company, his self-imposed time limit for determining and proclaiming the new corporate strategy.

The Macintosh developers congregating in San Jose, Calif., will listen to Apple's pitch for the future of the Mac OS, the Mac's role in the Internet and why they should stay loyal to the platform. They will want some specifics from Amelio. So will others. The mainstream media will be playing close attention to what he says at WWDC this week. For Amelio, the honeymoon will be over.

In the short time Amelio has headed Apple, his presence has been good for the company. He has succeeded in turning many Apple negatives into positives. For example, Wall Street looked at Amelio's measures in dealing with the $740 million shortfall as the first smart step in building a more fiscally sound company. His move to unload the Fountain, Colo., manufacturing facility, although upsetting to many of the employees being tossed over to a new employer, fit the pattern of a decisive cost-cutter. And many Mac developers responded calmly to the announcement of the departure of R&D chief David Nagel and the news about another Copland delay. Developers are more than willing to give Amelio his chance to turn Apple around on his terms.

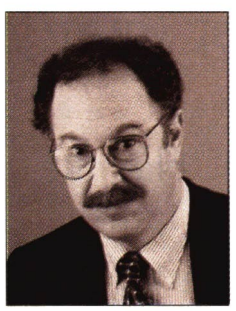
However, there's no denying that this is the week that Amelio will make a lasting impression on his core constituents when he gets specific about what those terms will be. If his message at WWDC is not persuasive, developers may become less accepting of Copland delays.

A backlash against the platform could begin in earnest, not just in rumor, as has happened in the past. After all, it's not as if WWDC attendees lack alternative operating systems for their products. □

THE SECOND DECADE HENRY NORR

Newton's still important arrow in Apple's quiver

With the notable exception of Apple CEO Gilbert Amelio, few of those commenting in public about Apple's prospects in recent months have even mentioned Newton. To my mind, that's a big mistake: I think it remains a significant strategic asset for Apple.



Hot stuff

Simply put, the new MessagePad 130 is a great product. Version 2.0 of the Newton OS is elegant and effective. Handwriting recognition works — and works well — provided you're willing to print. The 130's backlighting-on-demand feature alleviates a major usability problem with earlier models. And a small but loyal and energetic core of developers continues to crank out lots of first-class software for the system (including an amazing array of useful shareware).

Not that there aren't problems: The 130 and even the 120 are still way too expensive to attract the audience they deserve. They're still too big to fit in a pocket. And though the new OS relieves the most egregious bottlenecks, performance is still sluggish at times — it will probably remain so until Apple adopts the new StrongARM processor. And the Newton keyboard, though released months ago, remains inexplicably hard to find.

More importantly, there's still no sign of two critical pieces of system software announced with OS 2.0: The Newton Connection Utilities, which were supposed to deliver at last the easy integration with the desktop the MessagePad should have had from the outset, and the TCP/IP stack, the necessary groundwork for new Internet-access applications.

Fortunately, a new third-party product — X-Port from LandWare Inc. of Budd Lake, N.J. (http://www.landware.com) — appears to fill much of the void left by the delay of the Newton Connection Utilities. Unfortunately, I know of no substitute for the TCP/IP module, and until it's out, promising products, such as AllPen Software Inc.'s NetHopper Web browser, remain on hold.

The future is in our hands

If Apple can fill in these holes, push down its prices and put a little more marketing muscle behind the MessagePad, I'm convinced it can still be a big winner. And over the next few years I see opportunities for a variety of next-generation implementations: slate-sized designs, units with built-in keyboards, devices that combine the Newton OS with a cellular phone or other wireless communications technologies, and smaller devices designed primarily as adjuncts to desktop systems (along the lines of the new Pilot from U.S. Robotics Inc.'s Palm Computing subsidiary).

The real significance of the Newton, though, is longer term. It may take five, 10 or 15 years, but sooner or later personal digital devices will be as common as cell phones, calculators or maybe even wristwatches are today. Newton technology gives Apple a jump on this potentially enormous market.

Amelio apparently agrees: He seems to put in a good word for the Newton in every public appearance. I, for one, hope he sticks to his guns. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or at henry_norr@macweek.com.

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☐ 01. Yes ☐ 02. No

1 What is your organization's primary business activity at this *entire* location? (Select one only) Write Answer Here ➡

Non-Computer Related
01. Graphic Arts
02. Publishing
03. Advertising, Public Relations, Promotion
04. Digital Media Development
05. Entertainment/ Broadcast
06. Commercial Printer
07. Service Bureau/ Pre-Press
08. Aerospace
09. Architecture, Engineering
10. Telecommunications
11. Government
12. Manufacturing
13. Education: College/ University/Trade
14. Education: High School/Elementary
15. Finance: Banking, Accounting, Insurance, Real Estate, Legal
16. Health, Medical
17. Non-Computer Retailer, Wholesaler, Distributor
18. Research and Development
19. Agriculture, Mining, Construction, Oil
20. Transportation, Utilities

Computer Related
22. Manufacturer (Computers, Software, Peripherals)
23. VAR, VAD, Systems/ Network Integrator
24. Retailer/Distributor
25. Systems House/Data Processing Service
26. Computer Consultant
27. Other Businesses and Services
99. Other_____ (please specify)

2 What is your job function? (Select one only) Write Answer Here ➡

A. Networking/Data Communications
B. MIS/DP/Information Systems
C. Systems Engineering
D. Telecommunications
E. Graphic Arts/Design
F. Production/Pre-Press
G. Video Production
H. Audio Production
I. Communications/ Publishing/Public Relations/Advertising
J. Engineering/Architecture
K. Science/Research & Development
L. Education/Training/ Development
M. Manufacturing/ Operations/Production/ Quality Control
N. Administration/ Management/Personnel
O. Accounting/Finance/ Legal
P. Sales/Marketing
Q. Purchasing
R. Consulting
Z. Other_____ (please specify)

3 Which of the following brands of systems and/or applications software do you have installed at this *entire* location? (Check all that apply)

Operating Systems
☐01. System 7
☐02. System 6, 5 or earlier
☐03. Unix/Xenix/AUX/AIX
☐04. PowerOpen
☐05. Windows 3.X
☐06. Windows NT
☐07. Windows 95
☐08. NeXTStep
☐09. Solaris
☐10. OSF/Motif
☐11. Other_____ (please specify)

Network Operating Systems
☐13. Novell NetWare
☐14. Unix/NFS
☐15. LAN Manager
☐16. Banyan VINES
☐17. AppleShare
☐18. DEC PathWorks
☐19. Other_____ (please specify)

Groupware
☐21. Lotus Notes
☐22. Windows for Workgroups
☐23. FirstClass
☐24. Novell GroupWise
☐25. Apple Open Collaboration Environment (AOCE)
☐26. Other_____ (please specify)

Database Engines
☐28. Oracle
☐29. Sybase SQL Server
☐30. Ingres
☐31. Informix
☐32. 4D Server
☐33. DB2
☐34. Other_____ (please specify)

On-Line Services
☐36. America Online
☐37. CompuServe
☐38. e-World
☐39. Prodigy
☐40. Internet
☐41. Delphi
☐42. Genie
☐43. Other_____ (please specify)

4 Please indicate the quantities of the computers currently installed and indicate the computers planned for purchase in one year at this *entire* location.

(Write in accurate quantities for all that apply.)	Currently Installed (Quantity)	PLAN TO PURCHASE
Macintosh/Compatible		
Apple Power Mac 8100	1.	1.☐
Apple Power Mac 7100	2.	2.☐
Apple Power Mac 6100	3.	3.☐
Radius Power Mac Compatible	4.	4.☐
Power Computing Power Mac Compatible	5.	5.☐
Daystar Power Mac Compatible	6.	6.☐
Other Power Mac Compatible	7.	7.☐
Macintosh Quadra	8.	8.☐
Macintosh Centris	9.	9.☐
Macintosh Performa	10.	10.☐
Macintosh PowerBook	11.	11.☐
Macintosh Duo	12.	12.☐
Macintosh Other (II, LC, SE, etc...)	13.	13.☐
Other Mac Compatible	14.	14.☐
Other Desktops		
IBM/Compatible Desktop/Laptop/Notebook	15.	15.☐
PowerPC (Non-Mac Compatible)	16.	16.☐
Workstation (SPARC, MIPS, HP/Apollo, etc.)	17.	17.☐
Other Microcomputers	18.	18.☐

USE NUMBERS ONLY

5A How many servers are installed at this *entire* location? (Use numbers only)

5B How many LANs are installed at this *entire* location? (Use numbers only)

5C How many Macintoshes are connected to the LANs indicated in Question 5B above? (Use numbers only)

6 If applicable: how many Macintoshes are sold, resold, or recommended in one year at this *entire* location? (Answer one only)

A. Retailer: Number sold per year_____
B. Reseller: Number resold per year_____
C. Consultant: Number purchased by your clients through your firm's recommendation per year_____
D. Other: Number sold/resold/recommended per year_____
☐ E. Not Applicable

7A Which of the following Macintosh-related products do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Systems
☐01. Apple Macintoshes
☐02. Mac Compatibles
☐03. IBM Compatible Micros
☐04. Servers
☐05. Workstations
☐06. Minis/Mainframes
☐07. Newton PDA
☐08. Pen-Based Computers

Networking
☐10. LANs
☐11. WANs
☐12. Mac to PC Links
☐13. Mac to Mini/ Mainframe Links
☐14. Mac to Unix Workstation Links
☐15. Modems
☐16. Communication/ Network Software
☐17. Bridges/Routers/ Gateways
☐18. Hubs
☐19. NICS

Printers
☐21. Laser
☐22. Color Laser
☐23. InkJet
☐24. Color InkJet
☐25. Dye Sub
☐26. Thermal Wax
☐27. Plotter
☐28. Portable Printer

Image Input
☐30. Digital Camera
☐31. Flatbed Scanners
☐32. Handheld Scanners
☐33. Slide Scanners
☐34. Drum Scanners
☐35. Black/White Scanners

Displays
☐37. 14 inch
☐38. 15 inch
☐39. 17 inch
☐40. 21+ inch
☐41. LCD Projection Panel
☐42. Presentation Monitors

Peripherals
☐44. UPS
☐45. External Speakers
☐46. Input Devices
☐47. Video Deck
☐48. Image Setter

Storage
☐50. Photo CD
☐51. Magneto Optical
☐52. RAID
☐53. Hard Drive 1 Gig +
☐54. Hard Drive < 1 Gig

Add-In Boards
☐56. CD Recorder
☐57. Memory Boards
☐58. Display Boards
☐59. Video Digitizer Boards
☐60. Accelerator Boards
☐61. Sound Boards
☐62. MIDI
☐63. Video Capture/ Compression
99. ☐ None of the above

Your Signature _____

Title _____ Date ___/ ___/ ___

7B Which of the following systems and/or applications software do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Graphic Arts
☐01. Desktop Publishing
☐02. Electronic Publishing
☐03. Painting/Drawing Programs
☐04. Photo Retouching
☐05. Page Layout
☐06. Illustration Programs
☐07. Fonts
☐08. Pre-Press
☐09. Color Management
☐10. Digital Video
☐11. Other_____ (please specify)

Multimedia
☐13. Authoring Software
☐14. Video Editing
☐15. Sound Editing
☐16. Music Composition/ Editing
☐17. Animation
☐18. Clip Media (Sound and Art)
☐19. Other_____ (please specify)

Presentation Graphics
☐21. Presentation Software
☐22. Multimedia Presentations
☐23. Charting Program
☐24. Other_____ (please specify)

Design/Engineering
☐26. CAD/CAM
☐27. 2/D - 3/D Modeling
☐28. Simulation
☐29. Other_____ (please specify)

Business Applications
☐31. Word Processing
☐32. Spreadsheets
☐33. Databases
☐34. Project Management
☐35. Accounting/Payroll
☐36. Groupware
☐37. Desktop Video Conf.
☐38. Document Management
☐39. Mapping/GIS
☐40. Pen-Based Applications
☐41. Other_____ (please specify)

Systems Management
☐43. Operating Systems
☐44. Utilities
☐45. Applications Development
☐46. CASE
☐47. Programming Languages
☐48. Compilers
☐49. SQL Applications
☐50. Client Server Applications
☐51. Other_____ (please specify)
99. ☐ None of the above

8 If you indicated purchasing involvement for computers, computer products or services in Question 7A or Question 7B, for how many Macintoshes do you have this involvement? (Select one only) Write Answer Here ➡

01. 2000+ | 02. 1000-1999 | 03. 500-999 | 04. 100-499 | 05. 50-99 | 06. 20-49 | 07. 10-19 | 08. 5-9 | 09. 1-4 | 99. None

9 For what applications are the Macintoshes at your location used? (Check all that apply)

☐ 01. Graphic Arts
☐ 02. Presentation Graphics
☐ 03. Multimedia
☐ 04. Design/Engineering
☐ 05. Business Applications
☐ 06. Systems Management
☐ 99. Other_____ (please specify)

10 Over the course of one year, do you specify, recommend, buy, or approve the purchase of host systems, desktops, networking products, peripheral equipment and/or software worth: (Write number in box)

1. $5,000,000 or more
2. $2,500,000 to $4,999,999
3. $1,000,000 to $2,499,999
4. $600,000 to $999,999
5. $400,000 to $599,999
6. $200,000 to $399,999
7. $100,000 to $199,999
8. $50,000 to $99,999
9. $25,000 to $49,999
10. $10,000 to $24,999
11. Less than $10,000
99. None

Product Category	For this location (Write number in box)	For other locations (Write number in box)
Host Systems (Mainframes/Minis)	A.	G.
Desktops/Portables (Micros/Workstations)	B.	H.
Networking Products (include Servers)	C.	I.
Peripheral Equipment	D.	J.
Software Products	E.	K.
Service/Support	F.	L.

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LETTERS

Interim Copland needed

Well, Apple has finally announced what we have all feared: pushing Copland back yet another year (04.29.96, Page 1). I did notice the definitive statement, "Final customer release in mid-1997." I hope this indicates from Apple that it plans an interim release much sooner, similar to the way Windows users had Windows 95 in their hands and on their computers very early. The Mac OS environment needs to have at least a beta of something new by September.

Michael Grabenstein, Unix administrator
NASA, Greenbelt, Md.

Can't bank on Macs

I just opened a rather large envelope from Mellon Bank Corp., one of two financial giants in the Philadelphia region. The subject was banking by personal computer (MellonDirect 24, by name). After reading the brochure, I was saddened but not surprised that the system would work only with an Intel-standard computer using Microsoft Money, Money for Windows or Quicken 5 for Windows software. A call to Mellon confirmed that the Mac would not be supported.

I say that I was not surprised because Mellon had the hindsight to see the fiasco that had taken place with Intuit Inc. and Corestates Financial Corp. just a few months earlier. Corestates had run full-page ads and printed brochures describing its new online banking service, which would be available using Microsoft Money and Quicken for Intel-standard PCs and for the Mac. This service is now up and running for PCs, but its support was withdrawn for the Mac. Finger pointing by both sides claimed faulty security, no support for online bill paying and no e-mail capability.

Up until this point, Mac users have been able to access software for all of the major applications, with similar-functioning programs or cross-platform support. Substantial numbers of Mac users are waiting to take advantage of the new online banking service. If no support is forthcoming, this would represent a significant loss of prestige and user confidence in the Apple line. The banks have nothing against Apple, it just seems that their attitude is, "Why bother?"

Ron Kushnier
Information storage engineer
Veda Inc., Warminster, Pa.

Going, going ... gone

The chart with your article about the Apple Worldwide Developers Conference showed QuickTime VR as an "out" among Apple's technologies (04.22.96, Page 66). As your readers have been telling you, this is a mistake. To see that QuickTime VR is truly a home run, all you would have had to do is:

1. Look around on the Web. Just do a Web search for QuickTime VR; you'll get hundreds of hits.

2. Talk to more developers. There are 1,500 developers on the new QuickTime VR developer support mailing list. Dozens of developers have QuickTime VR-based CD-ROM products shipping or about to ship.

3. Read the press. MacWEEK described QuickTime VR support as the "hallmark feature" of the new Apple Media Tool 2.0 (03.25.96, Page 33). And our recent press release described new, free tools for QuickTime VR content development and the upcoming announcement of the next version of QuickTime VR at WWDC.

Your chart does serve as a wake-up call that we need to do a better job of getting the word out about QuickTime VR, though you might agree that the Apple/BMW TV and print ads are a good start. Expect to see and hear much more as we prepare to ship the next version of QuickTime VR this fall.

Bud Smith
Product marketing manager
QuickTime VR
Apple, Cupertino, Calif.

Join the NT crowd

I want to add my two cents' worth of advice to Gilbert Amelio for getting Apple back on track. My idea is simple: Build PowerPC/Intel machines for the expanding Windows NT server market. I believe Apple can build NT machines better than anyone in the business today, including Compaq Computer Corp. and IBM Corp.

If you can't beat them, join them. Microsoft Corp. has successfully used this philosophy, and did so again when it digested its pride and abandoned its proprietary technology for Microsoft Network and went full steam to the Internet. Microsoft has also learned from Apple how to build its Windows platform — now Apple should return the favor by working with Microsoft to build NT machines.

Azamul Haque
Language lab supervisor
Cuyahoga Community College
Cleveland

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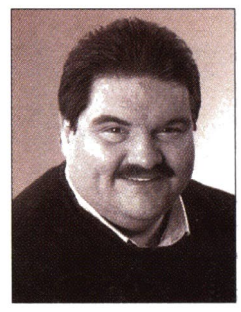
THE MAC MANAGER DON CRABB

Apple needs easy-to-use, integrated Web program

No matter what Apple Internet strategy CEO Gilbert Amelio lays out this week at the Apple Worldwide Developers Conference, it won't be enough to please all of the developers all of the time. He'll be lucky to please some of them some of the time.

That is, unless he decides to blow the doors off the place and blast out new territory on the Internet that makes sense for both developers and users. Amelio also needs to define the key product for the new territory that the company can deliver by year-end.



That bombshell strategy depends on applying some common sense to the common problem of the Internet: the lack of a single, easy-to-use Web content creator/designer/manager program. The first company to produce such an application is going to own the Internet in ways that will make everything else seem like it came from the Jurassic period of computing.

You must be joking

You may be asking: "But, Don, look at all the good applications out there already for designing, maintaining, updating and managing Web pages. Why do we need another? You must be joking, right?"

Wrong, HTML breath. What we need is something that combines the functionality of Web browsers, Web editors, communications tools, server tools, Internet utilities and Web languages.

In short, we need an AppleWeb or ClarisWeb (to quote myself) that enables mere mortals to design, update, manage and publish Web pages. And it should be designed so that users need to know diddly-squat about HTML, VRML (Virtual Reality Modeling Language), Java, ShockWave, Netscape Navigator plug-ins or any of the other flotsam that holds together a typical Web page.

Problem solved

My colleague Bill Sterner asked recently: "Why are Web tool vendors focusing so much on the problem of formatting? We solved that problem years ago with SGML [Standard Generalized Markup Language]. Where are the integrated tools that empower hypermedia content creation?"

Where are they, indeed. Look at a randomly selected Web page (commercial or private). What's it full of? Lots of links to other stuff that may have been germane the day the links were hardcoded in HTML but have become less and less so as time goes on. The page may look great, but the content stinks because there's no easy way to manage links you don't own.

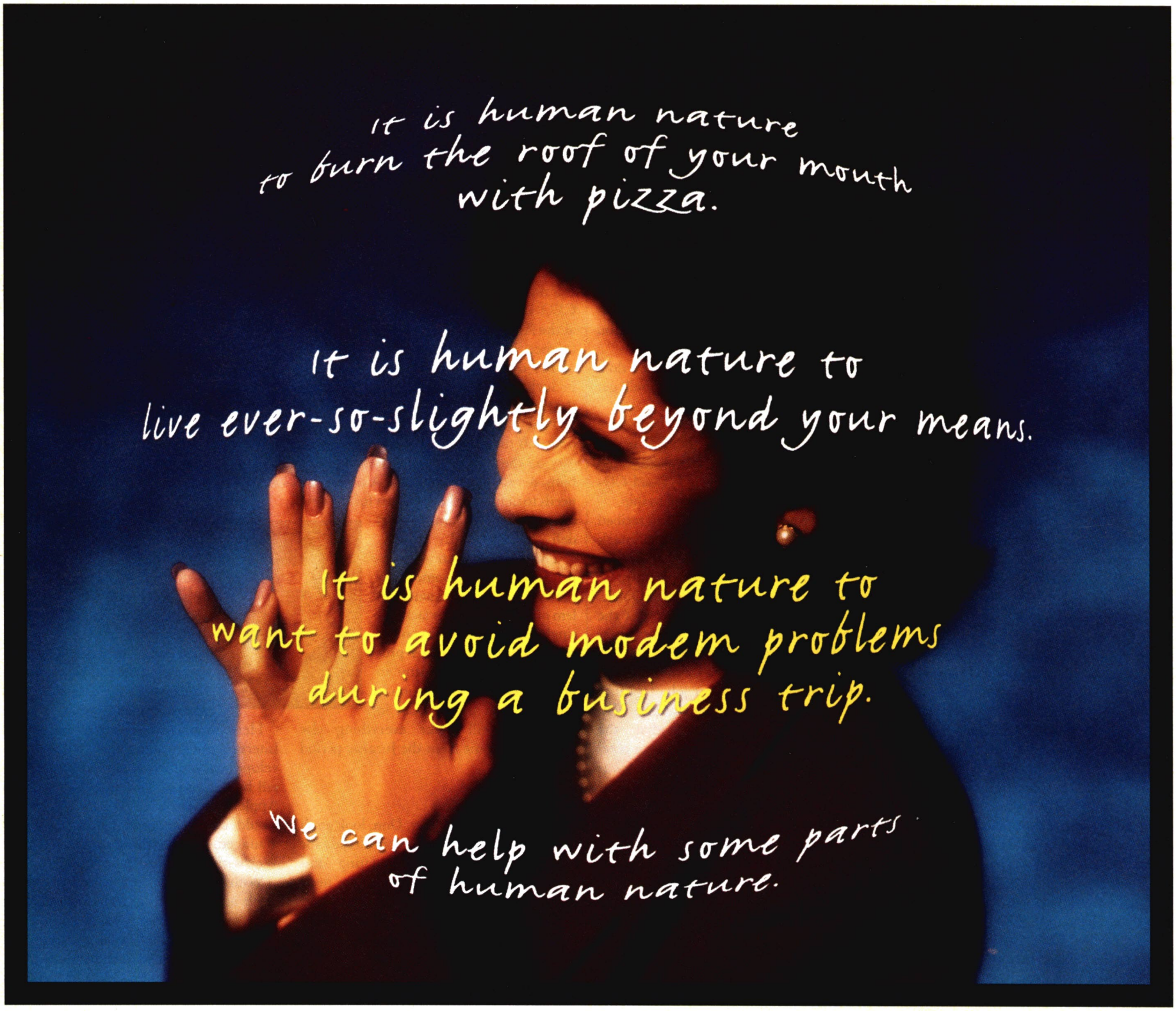
Here, then, is what Apple's bombshell Internet strategy ought to be: It should develop (buy, acquire, adapt, whatever) and sell by the end of 1996 a program called AppleWeb (or ClarisWeb). AppleWeb would be an integrated content/design/management/publishing program for the Web with an open API.

With AppleWeb, you would be able to create and maintain a clean, rich and slick Web presence without knowing a thing about the computer science making it all work, all the while keeping its hypermedia content fresh. For Mac OS developers this would finally give them an Apple-branded Web standard to work with that won't rely on just Navigator, a wing and a prayer. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.

"Maybe next time you could leave out my platform and network configuration when you introduce me."

Comments? Ideas? Contact Eli at elitoons@aol.com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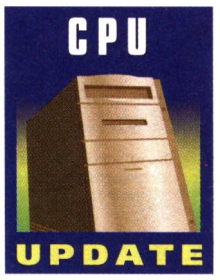
SHINY APPLES

Two new Apple Education Series titles, $300 each, focus on writing tools and cross-curriculum software.

Entry-level 5400 delivers power, PCI to the masses

By Andrew Gore, MacUser staff



Overall value:

Performa 5400/120 ◆◆◆◆

Performa 5260/100 ◆◆◆

One problem with the rapid pace at which computers evolve is that the latest, coolest technology is always the most expensive and the hardest to get.

Take PCI. Introduced less than a year ago, PCI-based Power Macs are still the most powerful — and most costly — in the panoply of Mac products. That was, until Apple unveiled the Power Macintosh 5400/120, the first system to take Apple's high-speed PCI logic board to a price that fits entry-level customers' budgets. It sells for $2,299.

The 5400 is initially being offered only through education resellers, although Apple has said that future consumer Macs will also use the new low-cost PCI logic board design, code-named Alchemy. So while the all-in-one 5400 machine may never be offered to the average consumer, Alchemy is the shape of education and consumers Macs to come.

Along with the 5400, Apple is rolling out the 5260/100, another all-in-one education machine (see review, Page 32).

Alchemy rules

Apple's new entry-level logic-board design has a tough act to follow. For almost three years, the processor direct slot-based logic board (which first appeared in the 33-MHz 68040 Quadra 630 and was later updated to PowerPC status in the 5200, 6200 and 6300 systems) has ruled the roost. Based on our tests, Alchemy eclipses its venerable forebears.

At the heart of Alchemy is a 64-bit wide, 40-MHz system bus that runs throughout the entire logic board. It runs not only among the processor, Level 2 cache slot and ROM, but also to RAM, video and I/O logic. This characteristic, combined with Alchemy's capability to use both 603e and forthcoming chips with a top speed of 240

See 5400, Page 32

While Apple's Power Mac 5400/120 features a small footprint and good-quality display on the outside, the real innovation takes place on the inside: a new low-cost PCI logic board design code-named Alchemy.

Apple's new education Macs

Although the new Macs ship with no cache, we also tested them with a 256-Kbyte Level 2 cache, available as an option for about $100. The 51 percent speed boost on the 5260's processor test score and the 29 percent increase on the 5400's score show that the card makes a significant difference.

Power Mac-native CPU speed

Processor Test	Longer is better 6100/60*	Index
Power Mac 5400/120 w/cache		20.7
Power Mac 5400/120 w/out cache		16.0
Power Mac 5260/100 w/cache		13.1
Power Mac 5260/100 w/out cache		8.7
Power Mac 7200/120 w/cache		19.2
Power Mac 5200/75 LC		10.0

Graphics speed typical of general-purpose software

Graphics Mix	Longer is better 6100/60*	Index
Power Mac 5400/120 w/cache		17.1
Power Mac 5400/120 w/out cache		12.9
Power Mac 5260/100 w/cache		12.5
Power Mac 5260/100 w/out cache		9.1
Power Mac 7200/120 w/cache		23.9
Power Mac 5200/75 LC		9.0

Test configuration: All tests run under System 7.5.3 with standard extensions loaded and virtual memory off. Displays were set to eight-bit color at a resolution of 640 by 480 pixels. All machines had 16 Mbytes of RAM.

*MacBench's score compares speed to a Power Mac 6100/60, which receives a 10.

Key ◆◆◆◆◆ *Excellent* ◆◆◆◆ *Very good* ◆◆◆ *Good* ◆◆ *Fair* ◆ *Unsatisfactory*

DeltaGraph 4.0 tops the charting charts again

By Tom Geller

The diversity of charts and customization options beats out all other contenders.

For years DeltaPoint Inc. has dominated the charting and graphing applications market with its flagship program, DeltaGraph. Now the company has upped the ante for would-be competitors with the $195 DeltaGraph 4.0. (The Pro designation, which first accompanied DeltaGraph 3.0, has been dropped with this version.) This time around, DeltaPoint has added several new chart types, greater data-page capacity and enhanced chart customization.

Both Microsoft Excel and ClarisWorks' spreadsheet modules have included graphing functions for several versions now, which raises the question: Why would you need a dedicated graphing program? After comparing DeltaGraph's charting capabilities against those two applications, the answers are obvious.

Most important among them is DeltaGraph's flexibility. Within its gallery of more than 100 distinct graph and chart types, quite a few, such as time lines and organizational charts, are not offered by either of the other packages. Multiply this by DeltaGraph's unique customization features, such as axis breaks and an equation editor, and you'll find that this application is more likely to translate data into the graphic form you envision.

But while spreadsheet programs are weak in graphing, DeltaGraph is equally weak in creating and managing data. Its spreadsheet-like module, called the Data Page, does not have enough functions to be a serious contender in that field, although it does include some basic data manipulation tricks.

In serving its primary purpose — accepting data pre-chewed by other programs — DeltaGraph performs well, supporting a wide variety of data formats, including

See DeltaGraph, next page

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DeltaGraph

From previous page

character-delimited text, SYLK, Excel (including new support for Version 5.0) and files from Computer Associates International Inc.'s CA-Cricket Graph. A caveat: By default, importing data into DeltaGraph replaces existing data instead of supplementing it. A minor preference change avoids this unpleasant surprise.

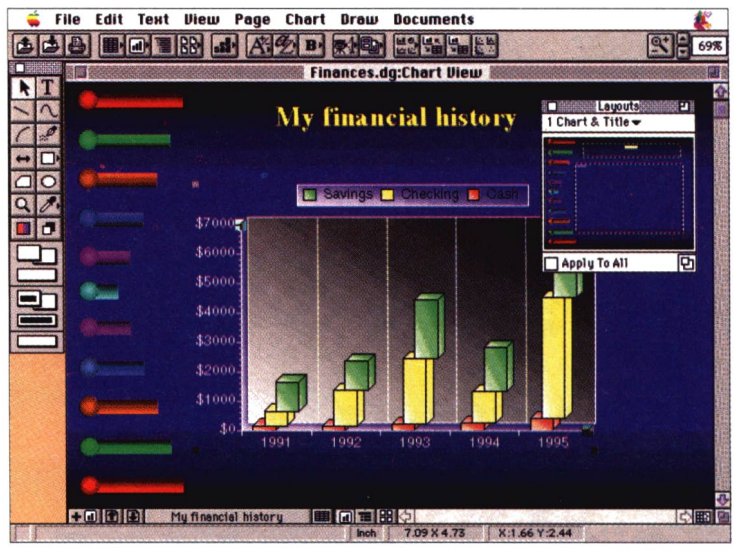
As in Excel, a DeltaGraph file may contain multiple data pages and chart pages, allowing you to consolidate disparate elements into one project. Neither program lets you view a chart page and the data page used to create it at the same time — a pesky inconvenience. (In Excel, however, you can view a chart and its originating data at the same time by putting the chart on the data page, an option not available in DeltaGraph.)

While it's useful to have multipage files, new users will be utterly bewildered when switching between the two types of pages because the program's interface changes dramatically: Tool bars, palettes and menus all shift around. A little practice goes a long way, but this mode switching makes navigation clunky.

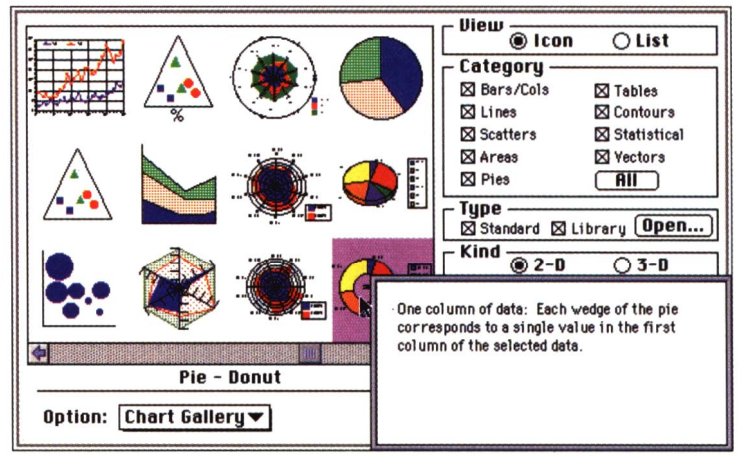
Presenting your findings

But DeltaGraph's forte is the charts it creates. Simply put, they are programming marvels, automatically scaled and labeled to fit the page well. Resize a chart, and elements remain aligned; change any element, and the look remains consistent. The graphs themselves can be exported as PICT, EPS or Adobe Illustrator 3.2 (text) documents, or as separate pages in a Scrapbook file. Unfortunately, DeltaGraph doesn't support Illustrator 5.x formats, and graphs therefore lose their gradated blend effects when exported. In addition, we experienced some text problems with exported files but were unable to determine whether the fault lay in DeltaGraph or Illustrator.

Much of the credit for DeltaGraph's visual elegance belongs to its system of editable layouts, which guarantees a consistent look for all charts in a project. As with dedicated presentation software, such as Microsoft PowerPoint, layouts consist of background elements and a complementary color scheme; in DeltaGraph, they also contain placement information and a hue palette for the graphs themselves. The program includes 61 complete layouts, which you can apply by dragging to and from a Library palette.



DeltaPoint's DeltaGraph 4.0 allows you to create unique graph types, such as this stacked column graph with custom offset. The Layout feature standardizes all charts in a project via consistent color schemes and backgrounds.



You can choose from more than 100 chart types in DeltaGraph's Chart Gallery. Holding down the mouse button brings up a description of the selected chart and the data format needed to create it.

DeltaGraph shares one more feature found in presentation software — the slide show. Two views, Sorter and Outliner, organize your project and allow you to add bulleted text-only slides for clarification. Again, these additional functions are presented in a manner guaranteed to mystify neophytes, but they help to make DeltaGraph a complete solution.

Documentation and support

DeltaGraph's documentation is terrific. The user guide, which is identical for the Mac and Windows versions, is gratifyingly Mac-centric and runs well over 500 pages. In addition, the application has one of the most complete Apple Guides we've ever seen. Pop-up help abounds, but DeltaPoint unfortunately chose to use a variety of its own idiosyncratic help systems instead of Apple's standard balloon help. Finally, DeltaGraph's sample files (one of which is launched when you first open the program) ably demonstrate its capabilities while encouraging experimentation.

Technical support is available by phone and via America Online and the Web. Service, while good, is slow: Phone-in support consistently took 24 hours to return our calls.

In general, DeltaGraph is remarkably stable; however, several users have reported crashing problems with System 7.5.3. For those planning to install the problem-ridden System 7.5 Update 2.0, we recommend eschewing DeltaGraph until DeltaPoint provides a promised fix.

Conclusions

DeltaGraph 4 contains no earth-shattering changes over Version 3.5, but it's still a worthy upgrade thanks to its many small improvements. It remains a valuable adjunct to full-featured spreadsheet programs, beating their built-in charting modules hands down. If you haven't used a graphing program before, you're in for a treat — but be prepared for a formidable learning process. Those experienced with charting procedures for advanced business and science applications, however, will appreciate DeltaGraph's value.

DeltaPoint Inc. of Monterey, Calif., can be reached at (408) 648-4000 or (800) 446-6955; fax (408) 648-4020; http://www.deltapoint.com. □

score card

DeltaGraph 4.0

DeltaPoint Inc.

Overall value ◆◆◆◆ **List price: $195***

DeltaGraph 4 begins where spreadsheet programs leave off, converting data into a dazzling array of charts, graphs and tables. The diversity of its charts and customization options outstrips all contenders, providing you with literally hundreds of ways to present your figures. As icing on the cake, DeltaGraph makes it possible to collect and organize graphs into a coherent presentation and export individual graphs as PICT, EPS or Adobe Illustrator files. But you'll need another program to do any serious number crunching prior to graphing, and you'll have to get used to some unusual ways of working because the program's multifarious pages, views and screens will make your head spin. Nonetheless, DeltaGraph aptly fills a need shared by business and technical professionals alike.

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Features ◆◆◆◆◆ **Documentation/support** ◆◆◆◆

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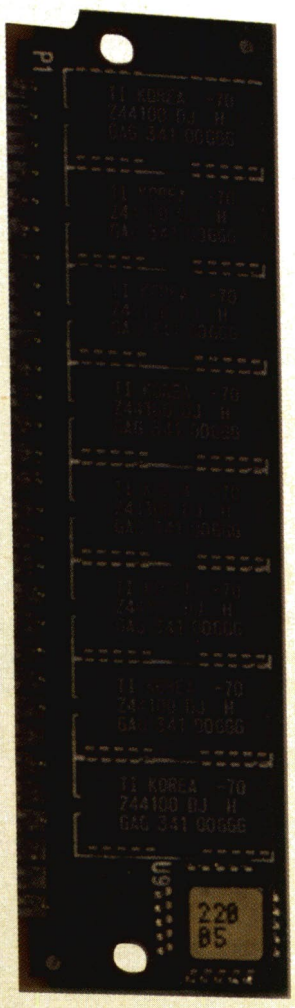

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5400

From Page 29

MHz, gives it more than enough clearance to keep the design viable for some time.

Other important changes that arrived with Alchemy include 8 Mbytes of RAM soldered to the logic board (the previous PDS design had no on-board RAM); 64-bit RAM slots requiring 70 nanosecond or faster DIMMs (the PDS design used slower 32-bit SIMMs); and two GeoPort-capable serial ports, making the 5400 the first entry-level Mac to include Apple's high-speed serial technology. The 5400 also has 16-bit stereo digital audio with Sound Retrieval System (SRS) 3-D sound enhancement (previous entry-level Macs could pass through 16-bit audio only from the CD-ROM drive, and digital audio support was limited to eight bit, except for the 6300).

In short, Apple has taken its high-end PCI architecture and shrunk it down to fit on a 630-style logic board. A 5400 logic board will fit in any 630-based entry-level Mac, although it is unclear whether Apple will offer logic-board upgrades for older systems.

Slots, old and new

In downsizing PCI, Apple didn't just throw slot compatibility out the window. The new PCI slot is based on the same design as its bigger brethren with one exception: The cramped quarters of a 5400 has enough space for only a 7-inch PCI card. According to Apple, this won't be a problem because many Mac PCI cards are already that size or can be easily shrunk from a 12-inch form factor.

On the rest of the board, compatibility reigns. The Alchemy communications slot can use the same modem cards as older 630-style systems, although it requires new Ethernet cards. Similarly, the TV tuner slot can use old cards.

The only slot that was significantly altered in Alchemy is the digital audio-video (DAV) slot that comes on Apple's digital video input card. The Alchemy-compatible version of Apple's digital video card uses the full 60-pin DAV connector; previous models had a 34-pin DVA, or Digital Video Analog Audio slot, which doesn't support digital audio.

Test driving the 5400

Of course, no logic board is complete without some expensive plastics wrapped around it. In the case of the 5400, Apple has delivered a full-featured machine at a reasonable price, once you consider what you're getting.

For $2,299, the 5400 includes a 120-MHz 603e processor; 16 Mbytes of RAM; a 1.6-Gbyte Enhanced IDE disk drive; a 4x CD-ROM drive; a digital video-in card; a display video-out connector; a 10BASE T Ethernet card; and an NTSC video converter, which allows the 5400 to use a television as a second monitor.

About the only thing the 5400 doesn't include is a 256-Kbyte L2 cache. This is unfortunate because even with Alchemy's faster, wider PCI architecture, the L2 still boosted CPU speed by 29 percent in MacBench 3.0 tests. With an L2 installed, the 5400 even managed to edge out the Power Mac 7200/120, the low end of Apple's latest mainstream PCI Macs. Apple is now selling the L2 cache card, called the High Performance Module, separately for about $100. It's definitely worth getting.

By comparison, the 7200 we tested costs $2,025 and includes 16 Mbytes of RAM, a 1-Gbyte drive and 256-Kbyte L2 cache. That doesn't include a monitor, speakers, digital video-in card or the 5400's extra 600 Mbytes of drive storage.

It also doesn't include the 5400's fun factor. The entry-level Mac comes in the same compact form factor as its predecessor, which integrates a 15-inch color display into a tilt-and-swivel all-in-one chassis that looks more like an audio-video monitor than a computer. Although the speakers are still low-rent, the stereo separation coming out of them is terrific, thanks to the SRS 3-D sound processing.

Even the monitor offers a few new tricks: The flat square shadow mask display is the sharpest Apple has delivered in an all-in-one design, and it supports multiple resolutions — 16-bit color at 640 by 480 pixels and 800 by 600 pixels, and eight-bit color at 832 by 624 pixels.

Conclusions

In the ever-quickening game of Mac CPU one-upmanship, it has become harder to declare a winner based strictly on speed. By this fall we expect that the 120-MHz 603e will seem anachronistically slow; it's too bad Apple couldn't offer versions of the 5400 with the 133- or even 166-MHz 603e chips that Motorola Inc. supposedly has in the pipeline for this summer.

The potential for processor obsolescence aside, the 5400 is one slick machine. Downsizing PCI and its attendant high-speed bus architecture was a neat trick that's bound to have both an accelerating and broadening effect on the number and the innovativeness of Mac PCI add-ons. In delivering such a speedy machine at a reasonable price, Apple is also keeping its entire line, not just its high-end systems, up there with the best that Intel-based PC clone makers have been able to deliver.

And then there's the 5400's all-in-one design. It's a pity Apple doesn't plan to offer this form factor to consumers — they might like its slick looks, small footprint and excellent display. This bit of marketing shortsightedness is about the only complaint we have about what is otherwise an excellent first low-cost PCI offering.

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The 5260 is no big deal

If ever there were a poster child for Level 2 cache, the Power Macintosh 5260 is it.

For the education customer, the 5260/100 looks to be the last in the now-venerable line of Macs and Power Macs based on the Quadra 630 architecture. Like its predecessor, the 5200/75, the $1,699 5260 takes a PowerPC chip (in this case, a 100-MHz 603e) and plugs it into a processor subsystem that offers a 64-bit data path between CPU, ROM and Level 2 cache slot. The rest of the logic board remains virtually identical to the old 630 machines: a 32-bit system bus between processor subsystem and RAM, a single integrated video logic chip with 1 Mbyte of dynamic RAM (not expandable), a 68030-style processor direct slot, plus custom slots for digital video, communications and TV tuner cards.

Besides the faster processor, the big architectural improvement between the new and old models is that the 5260 no longer uses a combination slot for both ROM and L2 cache. Unfortunately, the separate L2 slot gave Apple the chance to unbundle the L2 cache, which is now called the High Performance Module and is sold separately for about $100.

Without L2, the 5260 earned a MacBench 3.0 processor score of only 8.7, roughly 15 percent slower than the cache-equipped 5200, which garnered a score of 10. However, restore the L2 cache to the 5260 and the processor score jumps 51 percent to 13.1. The addition of L2 had a less significant, although still noticeable, impact on other scores in the MacBench test suite (see chart, Page 29).

While we understand that Apple wanted to deliver a faster processor with its latest 5200-series machine, that speed kick evaporates without an L2 on a computer with only a 32-bit-wide bus between processor and RAM. There is no real price savings for the loss of the L2, considering that both machines cost $1,699 for similar configurations — the 5200 came with 8 Mbytes of RAM, an 800-Mbyte hard drive, a 4x CD-ROM drive and 256-Kbyte L2 cache, while the 5260 comes with 16 Mbytes of RAM, an 810-Mbyte drive, a 4x CD-ROM drive and no L2 cache.

It's nice that Apple squeezed that extra 8 Mbytes of RAM and a faster processor into a $1,699 budget. Based on our tests, however, schools or students looking to pick up a 5260 had better factor in an extra $100 if they want a system that performs any better than the Power Mac they would have bought just a month or two ago.

— By Andrew Gore

For additional benchmarks rating the new Macs' performance for publishing and disk use, see MacWEEK's Web site at http://www. zdnet.com/macweek/reviews.html/.

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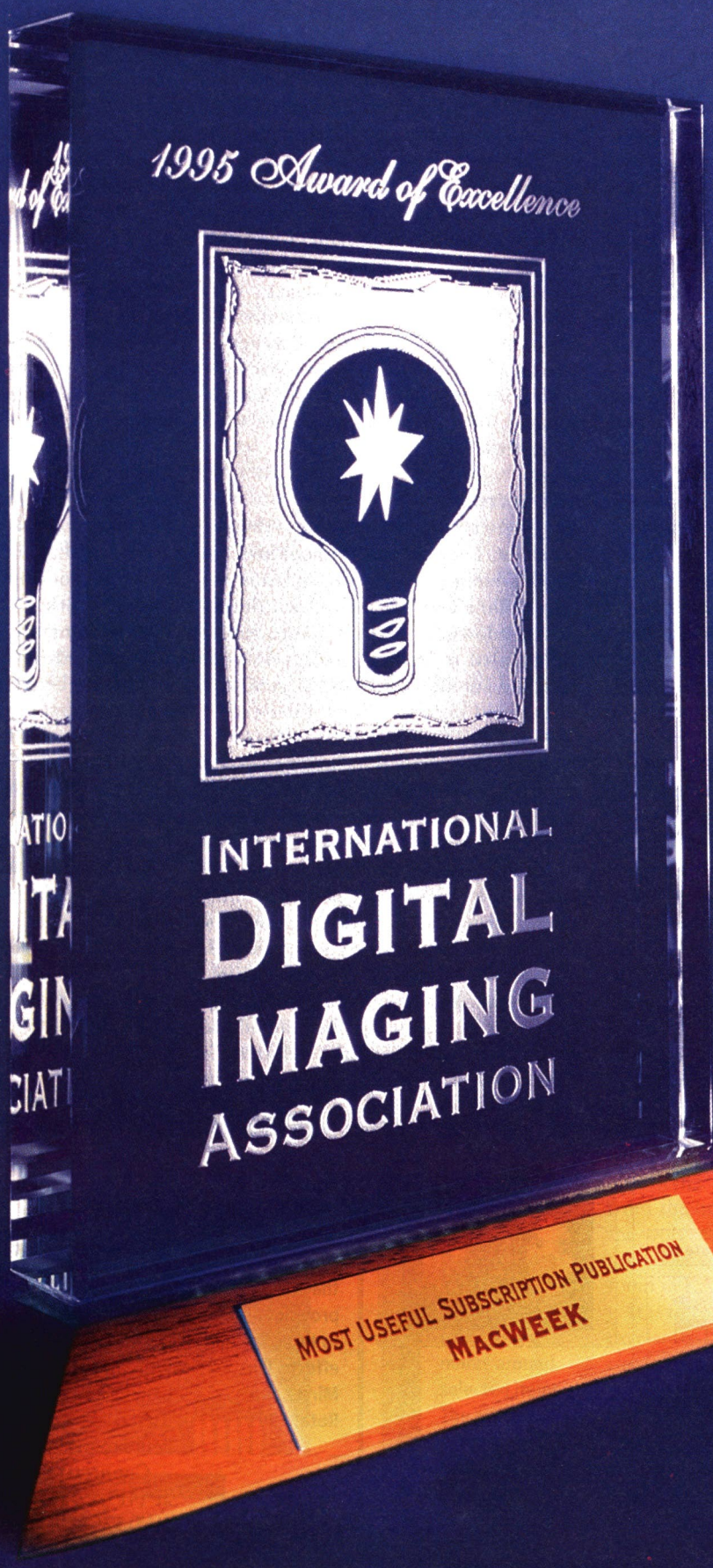

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IN BRIEF

Color QuickCam

Color changes everything for Connectix digital camera

Overall value ♦♦♦♦

The software that ships with Connectix's Color QuickCam, including QuickMovie (shown here) and QuickPICT, abound with features, such as QuickMovie's capability to capture time-lapse movies.

The arrival of Connectix Corp.'s Color QuickCam 24-bit digital video camera for the Mac means more colorful and lively documents, whether on paper or the Web.

The Color QuickCam, which bears an unmistakable resemblance to the original gray-scale QuickCam, comes with bundled software for still pictures and QuickTime movies and has an estimated street price of $199 (after a $30 rebate, through July 31). This would be enough to mark it for success if it were only a color version of its predecessor — but it is much more than that.

The volume of data that color brings to the desktop required some fancy engineering to maintain QuickCam's quick, easy serial-port connection. You'll need a spare serial port or a switching device because Color QuickCam doesn't work with add-on serial ports, so it must connect via the standard modem or printer port. It also draws additional power from the Mac ADB via a pass-through connector.

VIDEC (video digitally enhanced compression), a proprietary compressor-decompressor (codec), makes it possible to attain reasonable frame rates and frame sizes larger than postage stamps. Compression is also mandatory for network applications such as videoconferencing. (Color QuickCam is compatible with Connectix VideoPhone; the conferencing software costs an additional $59.)

Reliance on a codec also raises the bar for the supporting Mac hardware, which must have at least a fast 68040 processor (a Power Mac is preferred). It also requires QuickTime 2.1 (included) and free hard disk space by the megabyte to store those corpulent color images. For talkies, Color QuickCam relies on the Mac's microphone, which is inconvenient, but we're talking about a $200 color digital camera here, after all.

In fact, a proper perspective is the key to unlocking Color QuickCam's real potential. If approached with the attitude that it's a cute toy with few uses in the business world, Color QuickCam will make a dandy camera. If approached with the assumption that its specs — including a fast F/1.6 aperture, 5.7mm lens with 48-degree view, manually adjustable range from 1 inch to infinity and electronic zoom — will answer all your digital camera needs, it will disappoint. (There's no viewer other than the Mac display, for instance.)

But if the Color QuickCam is taken for what it is — a well-conceived, easy-to-use camera within the reach of most Mac users — this product is likely to inspire. And the bundled software is a large part of what makes this true.

Able software

The software includes system drivers, QuickPICT for stills and QuickMovie for QuickTime movies. A self-timer gives both audible and visual feedback during the countdown. The Auto Capture feature can be used to update pictures on your Web site automatically, and it even supports timed exposure shots. Files can be saved in PICT, TIFF or JPEG format.

QuickMovie features include stop-action animation and time-lapse capturing, so you can use Color QuickCam as a security camera to monitor your desk in your absence.

QuickPICT and QuickMovie integrate well, using standard dialog boxes for setting source, image quality and compression. The menu structure is a bit ambiguous, though. If you have other digitizing products installed or are running on an AV Mac, the Settings menu can be confusing. The automatic brightness adjustment works well most of the time, which is fortunate, since the slight response lag in slider controls makes manual fine-tuning somewhat frustrating until you get the hang of it.

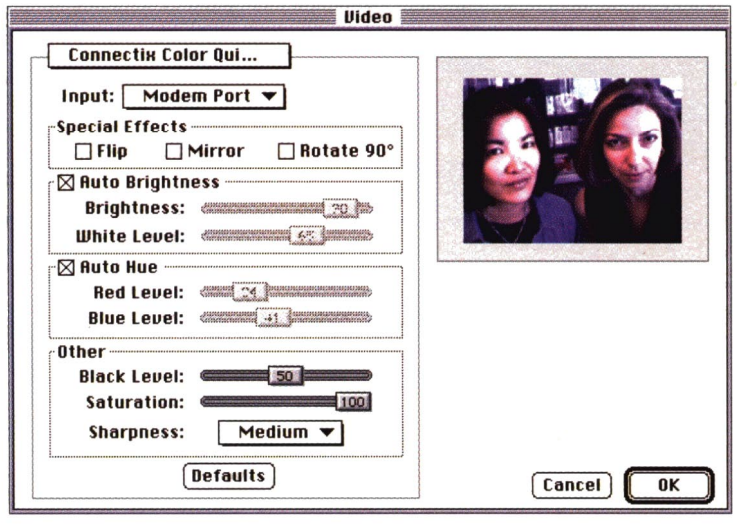
Expect the Color QuickCam software installer to hang in a no-exit, dual-dialog box loop if you don't first disable all extensions as recommended. This is a common warning, but this installer is one of the few that means it. To avoid confusion among the careless, don't install the gray-scale software unless you'll be using both versions.

These are minor complaints. If you've ever captured a digital image, you'll become a digital movie director and master photographer in minutes, controlling zooming, saturation, white and black levels, and red and blue levels. And with the instant on-screen feedback, it's a lot easier than learning all the controls on a new camcorder.

The quality of QuickCam's images depends on your understanding of how the system works. Lighting, of course, is an important factor, and Color QuickCam is optimized for use in an office, usually producing better results in a room with some natural light. Low-light settings should be avoided.

The size and frame rate of movies depends on the hardware to which the camera is tethered. We approached the advertised rate of 24 frames per second with 160-by-120-pixel images with the depth set to thousands of colors, and 15 fps with 320-by-240-pixel images at the same depth on a Power Mac 7500. Slower Macs, especially older Quadras, would be correspondingly less capable. For still images, you can capture good-quality, 24-bit color PICTs at 640 by 480 if you have decent lighting conditions.

The software, like the hardware, is deceptively simple. Reading the well-written manual will help imaging novices and old QuickCam hands alike make the most of the new Color QuickCam.



QuickMovie's Video dialog box will be familiar to anyone who has digitized video on the Mac. It also provides access to three special effects: Flip, Mirror and Rotate 90°.

Conclusions

The mark of good tool design is its potential. Color QuickCam, by virtue of the careful attention paid to detail, is a well-designed tool; it's difficult to predict the new tasks users will find for this worthy successor to the original. If you think about it, putting a color digital-imaging tool within the reach of all could change a lot of things. We think it will.

Connectix Corp. of San Mateo, Calif., is at (415) 571-5100 or (800) 950-5880; fax (415) 571-5195; info@connectix.com; http://www.connectix.com. — *By Dale Coleman*

XPert Tools Vol. 2

15 XTensions simplify, enhance QuarkXPress

Overall value ♦♦♦

The developer known as a lowly apprentice production inc. changed the playing field for QuarkXTensions with the introduction of its low-cost multifunction Kitchen Sink XTension in early 1994. The company's strategy of bundling several functions into one XTension made Kitchen Sink a runaway success and inspired other developers to follow suit.

Now alap (as it is commonly known) continues the trend with XPert Tools Volume 2, a $129 complementary set of 15 XTensions that simplify and enhance QuarkXPress.

The suite requires System 7 or later, XPress 3.2 or higher, and at least 2.5 Mbytes of hard disk space. The manual makes no mention of memory requirements, but we experienced screen redraw problems and crashes when using XPress' default memory setting of 3 Mbytes with XPert Tools 2; we recommend using at least 6 Mbytes.

The sum of its parts

Fans who mourned the passing of Kitchen Sink will be happy to see that most of its functions have been replicated in separate XTensions for the XPert Tools suites. In Volume 2, these are:

- XPert Pilot, a floating palette that displays a thumbnail of spreads and allows you to jump instantly to any point in the document.
- XPert CommandPad, which gives one-click access to a variety of XPress commands.
- XPert PageSets, which saves document settings (such as margin and column guides) for repeated use.
- XPert BoxTools, a collection of menu commands for manipulating text and picture boxes.
- XPert TextScale/Shift, a palette that augments XPress' Measurements palette, allowing text scaling and baseline shift.
- XPert Preferences, which lets you control certain measurement preferences, interface attributes and the resolution of image previews.

alap also plumbed its other popular XTensions to fill out the suite; these XTensions have been discontinued as stand-alone products. They are:

- XPert CharacterStyles (formerly FaceIt), a utility for defining character-based style sheets.
- XPert TextLink (formerly LinkIt), a complex tool designed for manipulating linked text boxes.
- XPert TextStyler (formerly StyleIt), which allows consistent formatting of non-contiguous text, such as columns in a table.
- XPert Scripter (formerly ScriptIt), a palette-based interface to AppleScripts.
- XPert Rulers (formerly BeyondMeasure), a measurement tool that augments XPress' own rulers.
- XPert ItemMarks (formerly Crop& RegIt), which draws registration targets and other printer's marks.
- XPert JobLog (formerly a free XTension called LogIt), which tracks when a document is opened, closed or saved.
- XPert Greeking (formerly a free XTension called GreekIt), which is for selectively "greeking," or graying out, graphics elements.

Joining them all is XPert Loader, a start-up utility that does for XTensions what Apple's Extension Manager does for system resources. XPert Loader is also included in XPert Tools 1. Unfortunately, installing Volume 2's copy over Volume 1's wipes out previously defined sets, although the installer gives you the option of circumventing this replacement.

Only XPert Pilot and XPert Rulers seem to slow XPress' operation noticeably, mostly because they require periodic screen redraws. It's worth noting that program start-up time drastically increases with XPert Tools 2 loaded. On an LC III, it went from 35 seconds to 80 seconds, and adding XPert Tools 1 brought the total time to just more than two minutes.

Working and playing well together

Because XPert Tools 2 and QX-Tools from Extensis Corp. (see 10.16.95, Page 36) are fighting for the same market, it's only fair to compare the two. In general, XPert Tools 2's XTensions are more flexible than its competitor's, but their implementation is not as transparent.

This is most evident in XTensions that perform functions common to both packages. Compare, for example, XPert Character Styles to QX-Styles in the Extensis product. Both enable character-based style sheets and provide handy pop-up buttons for common fonts, sizes and so forth. But the Extensis product also sensibly shows XPress' Style Sheets palette for paragraphs, resulting in fewer palettes cluttering your screen. Moreover, QX-Tools' palettes have several features in common with each other, giving the suite a more unified feel.

On the other hand, XPert Tools 2 sometimes exhibits more elegance. Style configuration dialog boxes adhere closely to XPress' model, and menu commands are added in logical places, making the package feel like a natural part of XPress.

Created equal

As stand-alone packages, we found the two to be of roughly equal value. An advantage of XPert Tools 2 is that it's part of a series: If you buy Volume 2 and later decide that you want to expand your collection of XTensions, you can buy Volume 1 with confidence that the two will work well together and — except for XPert Loader — contain no redundancies. You shouldn't be too confident, though: Version 1.0 of XPert Tools Volume 2 exhibited some conflicts with Volume 1 that Version 1.0.1 corrected. (It's worth noting that we reviewed Version 1.0 of QX-Tools and criticized it for its bugs, but these were quickly corrected when Extensis released Version 1.0.1.)

Technical support at alap, which is available via a toll call during business hours and through e-mail, is good. Unlike most software companies, however, alap lacks a standing presence on online services or the Internet. (Demos of XPert Tools are available in the Quark Forums of America Online and CompuServe.) Documentation is provided via a 124-page printed guide, but users would benefit from online assistance.

Conclusions

The value of any XTension collection is measured by answering three essential questions: How useful are the individual components? Do they work correctly? How well do they add up to a unified whole?

The first aspect — usefulness — is highly subjective. That said, we found XPert Tools Volume 2 to have fewer truly useful tools than Volume 1, with XPert TextStyler and XPert Pilot standing out from the bunch. And with Version 1.0.1, the tools seem to basically work as advertised once you give them enough breathing room in RAM.

It is in completeness that XPert Tools 2 excels. Its 15 components make for a low cost per function, and when combined with XPert Tools 1 (and lots of time to load), the combination fills many of XPress' gaps admirably.

a lowly apprentice production inc. of Carlsbad, Calif., can be reached at (619) 438-5790; fax (619) 438-5791; support@alap.com. — *By Tom Geller*

XPert ItemMarks, one of 15 XTensions in alap's XPert Tools Volume 2, quickly produces registration targets, color bars and other printer's marks around selected items. The marks are standard, editable XPress elements.

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MYOB Accounting 6: Big payoff for small offices

By Maria Langer

Strong payroll, sales, contact-management and inventory features make app shine.

BestWare's MYOB Accounting with Payroll is a strong competitor in the small-business accounting category. Vying for market share with Intuit Inc.'s QuickBooks and Peachtree Software Inc.'s Peachtree Accounting, it holds its own with a strong feature set and affordable price (estimated street price, $119.95).

New features in Version 6.0 include job tracking, improved payroll and on-line help, and additional importing and exporting capabilities.

Getting started

It's easy to install and set up MYOB. A Getting Started manual provides step-by-step instructions for setting up a company data file with the MYOB Setup Interview and Setup Menu options. The application offers 100 highly customized business templates as a starting point for the company chart of accounts, but it also lets you create your own if you prefer.

MYOB uses a flowchartlike interface with "command centers" for seven major accounting functions: General Ledger, Checkbook, Sales, Purchase, Payroll, Inventory and Card File. Each command center contains buttons that display lists or open forms for entering transactions. Within those list or form windows are clickable arrows and buttons that display other lists and forms. The MYOB Analyst, available in every command center, offers quick access to information about a command center's transactions.

You enter information about customers, vendors, employees and other contacts on cards. MYOB's contact-management features are unusually robust for an accounting software package; they automatically track and display all transactions related to a contact and let you enter your own contact notes.

Entering transactions with MYOB is as easy as filling in a form. The Easy-Fill feature can enter information based on previous entries, and you can click arrows beside form fields to display lists of possible field values. True double-entry accounting is hidden behind each form. The Transaction Journal, which uses tabs to separate different kinds of entries, shows all the debits and credits MYOB makes to each account.

The Power Mac-native version of MYOB that we tested performed well. It opened windows, recorded transactions and displayed reports quickly, even when the reports included data entered in more than one accounting period.

Strengths and weaknesses

MYOB's extensive feature set has several particularly strong assets that set it apart from other accounting programs. Its reporting feature, for example, includes more than 100 predefined reports, organized by command center. Customization of reports is limited to font selection, column inclusion and filtering to include only certain transactions, but you can save customized report formats for future use.

Forms such as invoices, purchase orders and checks, however, are completely customizable with MYOB's powerful Custom Form Designer. This makes it possible to print exactly what you need in the format you desire, on either blank paper, existing form stationery or check stock.

Almost any MYOB transaction can be made into a recurring transaction. This makes it easy to perform regular accounting tasks, such as preparing monthly invoices and depreciation transactions, and accruing expenses.

One feature we especially liked was the To Do window, which opens automatically at start-up; it can also be opened from any command center. This window, which uses tabs to separate different categories of items, lists outstanding transactions or tasks. You can have MYOB automatically perform a task on an item — such as create a purchase order to replenish low stock or record a recurring transaction — by marking the item and clicking the window's default button. Reviewing and acting on these items is a good way for an accountant to start the day.

We were, however, especially disappointed with MYOB's Personalized Letters feature, which does nothing more than export card information to a tab-delimited text file. The use of the terms "personalized letters" and "mail merge" within the program and its documentation is misleading, since you must use a separate word processing application with mail-merge capabilities to take advantage of this feature.

The competition

MYOB matches Intuit's $189.95 QuickBooks Pro 4.0 (see 03.18.96, Page 38) feature-for-feature in many instances and surpasses it in several. For example, MYOB automatically creates back orders on invoices when selling an out-of-stock item, generates packing slips and shipping labels, and lets you select different cards for billing and shipping purposes. These are just a few features not supported by QuickBooks Pro.

Although both QuickBooks Pro and MYOB Accounting with Payroll handle payroll accounting, MYOB offers more salary and deduction categories, automatically calculates accruals for vacation and sick time, and supports more tax types. MYOB does not, however, offer employee time-reporting features — capabilities that make QuickBooks Pro especially appealing to organizations that bill based on time. Instead, MYOB supports Timeslips Accounting Link (TAL), which automatically imports data collected by Timeslips Corp.'s Timeslips for Macintosh. While TAL comes free with MYOB, you'll still need to buy at least a single-user version of Timeslips 3.0, which is $299.95.

MYOB cannot map income and expenses to tax return categories and then print tax reports. This feature, available in both QuickBooks and Intuit's Quicken 6.0 (see 03.11.96, Page 30), makes tax preparation easier. Like QuickBooks Pro, MYOB is not network-capable.

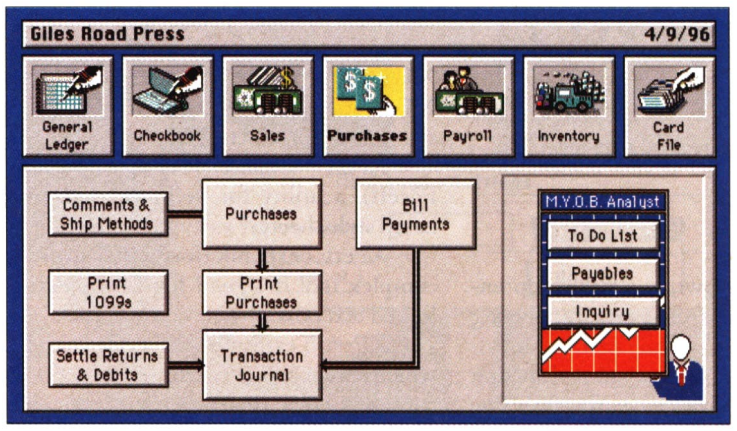
Help yourself

MYOB's documentation and online help features are the best we've seen. In addition to the Getting Started manual there's a task-oriented user guide; online help with contents, keyword search and hypertext links; and online cue cards with step-by-step instructions. The online help also includes a complete list of fax-on-demand documents you can obtain without using valuable technical support time. And that's important because users get only 15 minutes of free technical support during the first 30 days after registration. After that, you can purchase support in 15-, 30- and 60-minute increments for prices ranging from $30 to $100. We waited less than five minutes for help; our support person was friendly and knowledgeable and answered our questions quickly.

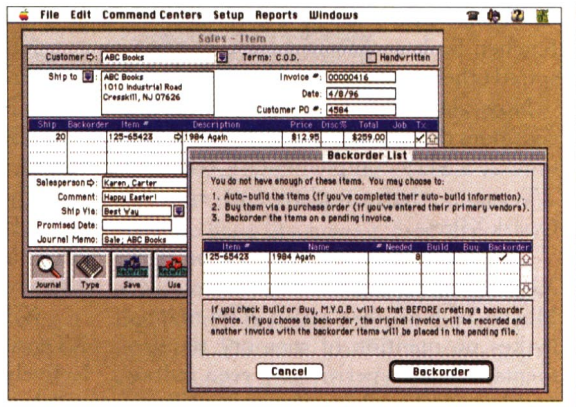
Conclusions

MYOB offers the features small businesses need in a double-entry accounting software package. Although users familiar with other accounting software may find MYOB's flowchart interface initially difficult to navigate, once accustomed to it, they'll find a wealth of features to keep track of business operations. With especially strong payroll, sales, inventory and contact-management features, it's a smart choice for small businesses that don't require time tracking or networking capabilities.

BestWare of Rockaway, N.J., can be reached at (201) 586-2200 or (800) 322-6962; fax (201) 586-8885; http://www.bestware.com. □



The un-Mac-like flowchart interface of BestWare's MYOB Accounting with Payroll will seem a bit strange at first, but it's easy to use. Each command center offers buttons that let you access lists and forms.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3. Backorder the items on a pending invoice.
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Backorder

MYOB Accounting for Payroll won't let you sell more items than you have on hand. It automatically offers to create a back order for the current sale and then includes the out-of-stock item on the Stock Alert list.

score card

MYOB Accounting with Payroll 6.0

BestWare
Estimated street price: $119.95*
Overall value ◆◆◆◆

MYOB is a double-entry accounting software package that offers the features small businesses need: general ledger, checkbook, sales and receivables, purchases and payables, payroll, and inventory. The flowchart interface is a little weird if you're used to menus and tool bars, but once you're comfortable with it, it works fine. The software has strong payroll, sales, inventory and contact-management capabilities, as well as thorough documentation and on-line help. Although a multiuser version is not available for networked environments and the program lacks time-tracking capabilities, MYOB's feature set and low price make it a solid value for small businesses.

Performance ◆◆◆◆
Features ◆◆◆◆
Ease of use ◆◆◆◆
Documentation/support ◆◆◆◆◆

**Owners of previous versions can get a $40 rebate after purchasing Version 6. MYOB Accounting 6 without Payroll is available for an estimated street price of $89.95.*

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Technical

T1. 1.0 Libraries Technical Overview
Design, functionality, and extensibility in the 1.0 Java API.
JONNI KANERVA, JavaSoft • FRANK YELLIN, JavaSoft

T2. Platform Independence & Reusability
How the Java architecture makes platform independence possible.
JAMES GOSLING, JavaSoft

T3. Java Runtime Internals
Internals of the virtual machine, garbage collection, etc.
FRANK YELLIN, JavaSoft • TIM LINDHOLM, JavaSoft

T4. Future JavaSoft Technology
A preview of upcoming JavaSoft technologies on the horizon and beyond.
JAMES GOSLING, JavaSoft

T5. Servers & Server Extensions
Introducing the Java Server Framework and Servlet API, the Java HTTP Server, and how to extend server with servlets.
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T8. JDBC: Java Database Connection
How to use the JDBC API to connect to relational databases.
GRAHAM HAMILTON, JavaSoft

T9. Media Class Libraries
The classes being defined by Sun and other partners for richer 2D and 3D graphics, imaging, audio & video.
SPEAKER TBA

T10. Remote Objects
Introducing JavaSoft's remote method invocation and distributed object technologies.
PETER KESSLER, JavaSoft • JIM WALDO, JavaSoft

T11. Electronic Commerce
Introducing Sun's framework for Java-based electronic commerce.
TED GOLDSTEIN, SunLabs

T12. Embedded and Small Systems
Java implementations for systems with limited hardware resources and software support.
PETER MADANY, JavaSoft

Design

D1. Advanced Tutorial: Real-World Applets
Tips and tricks for developing small, fast commercial-quality applets.
PATRICK CHAN

D2. Advanced Tutorial: Network-Based Applications
How to use the Java Networking Classes, including TCP sockets, datagrams, multicast etc.
PAVANI DIWANJI, JavaSoft

D3. Human Interface Design
Designing human interfaces that make use of applets on web pages.
ANNETTE WAGNER, JavaSoft

D4. Authoring & Scripting
A panel discussion on scripting language technologies such as JavaScript™, and tools for authoring Java-powered apps.
INDUSTRY PANEL TBA

D5. Advanced Tutorial: Abstract Window Toolkit
How to take full advantage of the Abstract Window Toolkit (AWT) to develop robust Java-based GUIs.
AMY FOWLER, JavaSoft • JIM GRAHAM, JavaSoft

D6. Designing with Realtime Data
Concepts and complexities of designing Java-powered applications which manage realtime data.
SPEAKERS TBA

D7. Private Label Browsers
How to turn the HotJava™ browser into your own custom Web browser.
HERB JELLINEK, JavaSoft • STEVE BYRNE, JavaSoft

D8. Designing Your Own Class Libraries
How to build your own class libraries for the Java Language.
SPEAKER TBA

D9. Advanced Tutorial: Multithreaded Applications
How to use the power of multi-threading in your Java-powered applications.
TOM BALL, JavaSoft

D10 Designing with 3D
A panel discussion on using 3D libraries for the Java Language.
INDUSTRY PANEL TBA

D11. Distributed Computation & Persistence
Introducing JavaSoft's technology for persistent objects and distributed computation.
JIM WALDO, JavaSoft

D12. Multiuser Environments
Social-oriented online systems: requirements, examples, futures.
DOUGLAS CROCKFORD, Electric Communities

Strategy/Business

S1. JavaSoft Business Roadmap
An overview of JavaSoft's business and technical strategies.
JON KANNEGAARD, JavaSoft

S2. Industry Outlook (Markets Intro)
Key market segments and opportunities for Java-powered applications.
LEW TUCKER, JavaSoft

S3. The Internet Server
Market opportunities for Java-powered servers and servlets.
HONG Q. BUI, JavaSoft • CHRIS ZULEEG, JavaSoft

S4. Markets: Intranet/Enterprise
How Java-based technology is changing corporate development for the enterprise.
SPEAKER TBA

S5. The Internet Players
Who's who in the wild and crazy world of the Internet.
RUTH HENNIGAR, JavaSoft

S6. The Internet Desktop
How Java technology and the Internet are redefining the desktop.
AMY PEARL, JavaSoft

S7. Java Compatibility
What it means to be Java Compatible™: conformance tests and other issues.
CARLA SCHROER, JavaSoft

S8. Markets: Finance
Leading Financial Service developers discuss issues related to using Java-based technology in the Finance community.
INDUSTRY PANEL TBA

S9. Java-Based Appliances
Internet appliances and embedded systems incorporating Java technology.
JIM MITCHELL, JavaSoft

S10. Revolutionizing Software Distribution
Exploring new strategies for distributing software over the Internet.
TIM LINDHOLM, JavaSoft • INDUSTRY PANEL TBA

S11. Markets: Entertainment & Publishing
New media and interactivity possibilities for the entertainment and publishing industries.
SPEAKER TBA

S12. Markets: Internet Commerce
Issues of international trade over the Internet, such as taxation, digital cash, encryption and security.
INDUSTRY PANEL TBA

Industry

I1. Adobe Systems Inc.
Adobe and the Internet. How Adobe technologies complement the Java programming environment
BILL MCCOY, Engineering Director

I2. Borland
Rapid Application Development. Learn how Borland eases your development from prototype to production.
WILLIAM DUNLAP, Product Manager for Internet Tools

I3. Justsystem
Component Software Architecture.
DR. HIDETO TOMABECHI, VP, Advanced Research

I4. IBM, Center for Java Technology Development at Hursley
Platform Independent Programming on the Intranet. How enterprise-wide solutions protect your investment and allow for platform freedom.
SIMON PHIPPS, Market Evangelist

I5. Metrowerks
Source-Level Debugging with CodeWarrior. Overview of CodeWarrior's Java Language support, and in-depth tutorial on source level debugging.
GREG GALANOS, President and CEO • GREG DOW, Senior Product Architect

I6. Mitsubishi
Java-Based Devices from Mitsubishi. This talk will include a discussion about the microprocessor M32R/D and other Java-based devices from Mitsubishi.
SPEAKER TO BE ANNOUNCED

I7. Netscape
Introduction to the JavaScript Language. How the JavaScript Language can help you to create exciting applications and pump life into your web site.
LEONARD FELDMAN, SR. Product Manager, Development Tools

I8. Novell
Beyond Browsers: NetWare servers, services & installed base. How Netware servers, services, and installed base provide opportunities for Java-powered applications.
Drew Major, Chief Scientist, VP Advanced Development Network Products Group

I9. Silicon Graphics Inc.
Building Hypermedia Applications with VRML 2.0. Learn how the Cosmo software environment enables developers to create a new class of 3D and multimedia applications.
SPEAKER TO BE ANNOUNCED

I10. Symantec
Next Generation Development Tools. This session will provide an overview of Symantec's upcoming Java-based development tools for the internet/intranet and database connectivity.
MANSOUR SAFAI, General Manager, Internet Development Tools

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INTRODUCING

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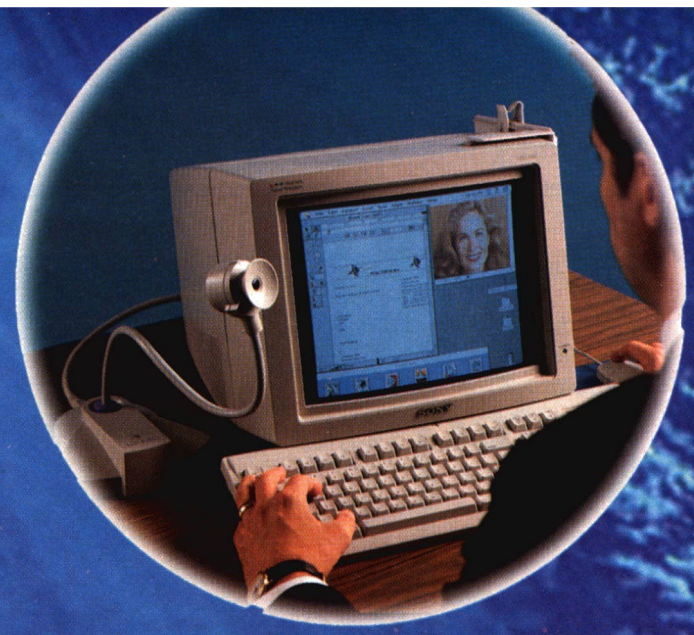

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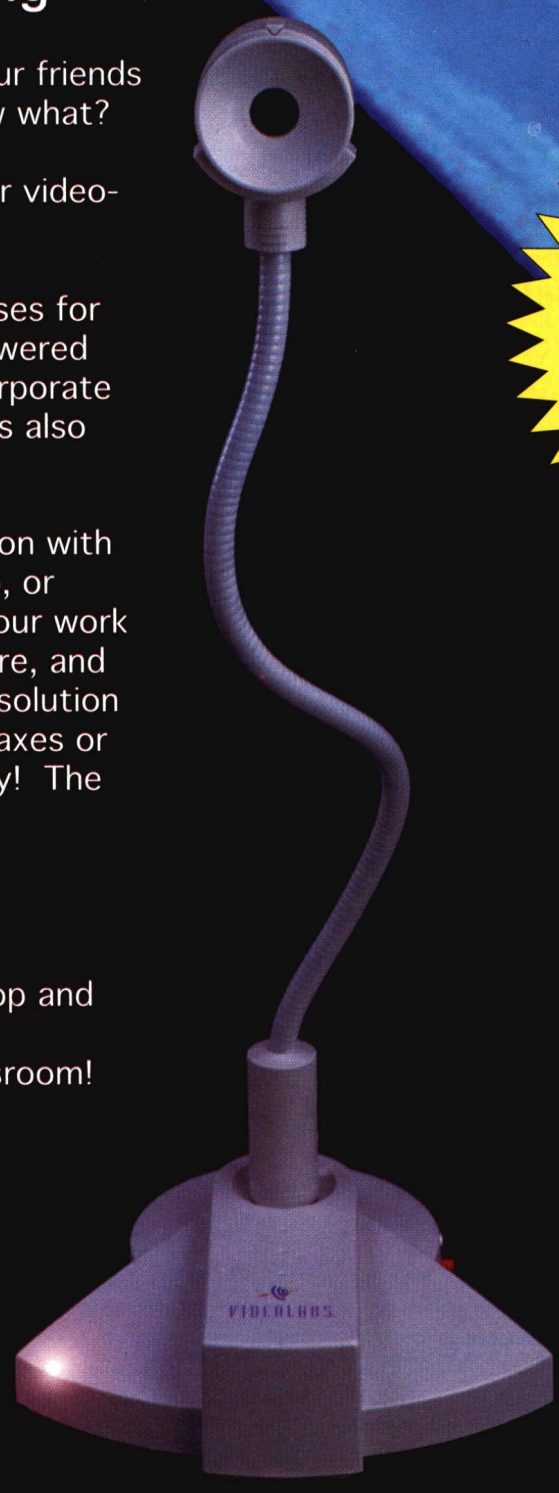

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DISKOVER IT

See the review of Optima Technology Corp.'s DisKovery 650CDR drive with CD-R access software (08.14.95, Page 35).

CD-ROM

Users find a happy storage medium with CD recorders

By Ross Scott Rubin

Years after the first Macintoshes donned CD-ROM drives, the capacious digital discs have found new value in the hands of Mac users. In addition to using the discs for distribution of system software and large applications, systems administrators have been able to take advantage of falling prices for CD recorders to produce master CDs for their own use.

Although data written to CD-ROMs cannot be erased, multisession capabilities let users add data to the discs. As a result, storing large graphics and multimedia files has emerged as another popular use for the medium, as was using the discs for system maintenance.

"Previously we were using several sets of DAT tapes, but I feel better having the data on a CD-R."

— Brian J. Bodensteiner UCLA Student Media

Easy access

"I can give a backup to students without the fear of the drive or tape being ruined by improper usage. They can access their back files from any machine with a CD-ROM drive," said William Hubschmitt, chair of the art department at the State University of New York at Oneonta.

Hubschmitt praised the durability of CD-ROM as opposed to SyQuest or DAT media. He also used a Ricoh CD-Recordable from Mirror Technologies Inc. of Edina, Minn., to produce a CD-ROM catalog. By taking advantage of the ISO 9660 standard for cross-platform use and using the Astound! presentation package from Santa Clara, Calif.-based Gold Disk Inc., he was able to distribute a catalog of an exhibition of his work to Mac and Windows users. Hubschmitt used Easy-CD Pro from Incat Systems Software USA Inc. of Campbell, Calif., to master the disc.

Veteran CD-ROM recorder Brian J. Bodensteiner, a project manager of student media at the University of California at Los Angeles, has created more than 200 CD-ROMs.

"We produce about 1.2 Gbytes of pictures and layouts per quarter, and CD-R is the only cost-effective method for archiving this data," he said. "Previously we were using several sets of DAT tapes, but I feel much better having the data on a CD-R."

David Honda, a systems manager at Color Service Inc., a color separator in Monterey Park, Calif., said: "We're getting more requests to put jobs on CD-ROM. [Our customers] like the idea of CDs having a long shelf life."

Color Service primarily uses CD-ROMs for storing high-resolution Adobe Photoshop files. The company, though, is already starting to feel the limitations of the medium. Honda said that if customers ask for a complete job, including QuarkXPress documents, fonts and other associated files, the project might require multiple CDs.

Honda also cited media cost and convenience as factors favoring CD-ROM. Recordable CD-ROMs, he said, cost $8 to $10 each, while even the least expensive SyQuest cartridges cost about $55. And, although DAT is high capacity and inexpensive, not everyone wants to go through backup software to retrieve their files, Honda said.

Charles Adragna, a systems administrator at E-Systems Inc., a division of Raytheon Co. in St. Petersburg, Fla., also notes the flexibility that CD-ROM's popularity brings.

"CD-R is the perfect technology because all of our Power Macs are already equipped with CD-ROM readers," he said. With 700 Macs, 500 Intel-standard PCs and 250 Sun Microsystems workstations in his division, Adragna uses cross-platform CDs.

Adragna described his first attempt to create a disc as surprisingly easy. The five-step process includes logging onto a file server, copying files onto a Quadra 950, launching the CD software and telling it to write to the CD-ROM, deleting the original folder on the server, and replacing the deleted folder with an alias to the CD-ROM.

TARKKANEN & JACKSON

In addition to storing color images and presentations too large to keep indefinitely on a file server, the division uses an RCD-1000 drive from Pinnacle Micro Inc. of Irvine, Calif., for system maintenance.

"Rebuilding a system without the aid of a master copy would mean install System 7.5; install System 7.5 Update [2.0]; add extensions, PPDs [PostScript Printer Descriptions], etc.; set Finder and application prefs; [and] install fonts," Adragna said.

Evolving capabilities

The price/performance ratio of CD writers has not quite kept pace with those of CD-ROM readers but has increased dramatically since their introduction. Like their read-only coun-

See Solutions, next page

GORDON STUDER

MACINTOUCH

RIC FORD

Apple fixes 7.5.3; HP updates its DeskWriter driver

Since introducing System 7.5.3 (System 7.5 Update 2.0), Apple has released a few additional updates and fixes. Some serious bugs remain, according to a confidential Apple note and other information, and I am following up on those issues.

AppleVision Software Fix for System 7.5 Update 2.0 addresses various problems with extensions and the System 7.5.3 installation process. The read-me file documents the details and describes a manual recovery process for people who installed the Monitors & Sounds control panel on non-PCI Macs via Custom install. This floppy image is available from Apple's Software Updates libraries online.

AppleShare Workstation 3.6.2, also available online, fixes some crashes and other bugs. Workstation User's Guide, a TeachText file included in the package, has some interesting notes. It recommends installing System 7.5 Update 2.0, but says that AppleShare performance may decrease with this software, and future system software releases should correct the problem. The file also notes that Network Software 1.5.1 (see 06.12.95, Page 38) remains the current networking release for Macs not running Open Transport.

See MacInTouch, next page

SOLUTIONS

From previous page

terparts, some writers can record data at two times and four times a normal CD's speed, but other factors may affect performance. The fastest drive Bodensteiner has used has been a quadruple-speed mechanism, from San Jose, Calif.-based Yamaha Corp. of America, but he could not take full advantage of the drive.

"I could not get the Yamaha to burn at 4x speed. I would have had to stripe the drives in my [Workgroup Server] 9150, and it wasn't worth the trouble," Bodensteiner said.

Charles A. Frean of FREANdesign Creative Multimedia Services in Bedford, Mass., said he has been satisfied with the RCD-1000 drive he purchased last year.

"I am a multimedia developer of training courses and promotional demos," he said. "CD-R is, for me, the perfect medium for delivery to clients of demos, proof-of-concept prototypes, beta versions and final masters. It is also an excellent medium for archives and backup of my entire system."

He has burned 45 CD-ROMs to date. The formats he has used include single-session and multisession Mac Hierarchical File System, ISO 9660, Mac/ISO hybrid, and Red Book audio. Frean purchased the RCD-1000 because of the drive's low price.

"This was one of the first entry-level CD-R drives on the market. It is double-speed read and write and requires green-coated CD-R media. The 2x write speed, although relatively slow compared to the latest CD-R drives, is perfectly adequate for my current business needs," Frean said.

Users also cite the importance of using reliable and intuitive recording software for the recorders. UCLA's Bodensteiner said the burning software has been key to all three drives he has used, calling the software bundled with one drive basically worthless.

"It may work as backup software, but it is terrible for mastering," he said.

In particular, some CD-ROM recording programs are sensitive to fragmentation on the disk. Honda encountered problems with both recording programs that came bundled with his CD recorder from Optima Technology Corp. of Irvine, Calif. One program was QuickTopix from Optical Media International of Los Gatos, Calif. Although there were only 240 Mbytes of data on a 2-Gbyte drive, the CD failed to master.

"Since QuickTopix apparently can't ignore empty sectors, it assumed we were trying to master more than 600 Mbytes worth of material," Honda said. Other quirks included not being able to handle source disks with a single 4-Gbyte partition. "We wasted about four blank CDs until we figured that one out," Honda said.

> "I can give a backup to students without the fear of the drive or tape being ruined by improper usage."

The other bundled application was CD Access from Optima Technology. Like the company's DeskTape software, which allows users to work with DAT on the desktop, CD Access lets users master CD-ROMs in a Mac-like way by dragging files from the hard disk to the desktop.

This approach offered several advantages: relatively good speed, ease in creating multisession CD-ROMs, lack of sensitivity to fragmentation, freedom over folder structure and hierarchy, and ease in naming the CD. However, reading the CD-ROMs created with the software required that end users install an extension. Even though the process of installing the software was automated, Honda's customers felt uncomfortable dealing with an unfamiliar extension.

Neil Schonweld of Comptel/Gamma Ray Observatory at the University of New Hampshire in Durham, N.H., had to look outside the box when producing CD-ROMs containing rocket and satellite data. After purchasing a 522 CD recorder from Philips Consumer Electronics Co., he tried using its bundled Vulcan software to burn CDs for Macs, PCs and Unix workstations.

Although he worked with the company through several beta versions, the software ultimately proved unreliable. He then switched to Toast from Astarte GmbH of Karlsruhe, Germany, which he said "lives up to its reputation for being rock-solid."

According to Frean, "The Toast manual, despite many foreign-language translation-related errors, is very well laid out and has been useful."

Frean also praised the Pinnacle Micro drive manual for its clear discussion of CD-R technology.

Bodensteiner said that Incat Systems Software USA's Easy CD Pro, which came with his Yamaha drive, also works well.

Mastering programs, however, must specifically support certain drives. Although Toast is now supported by Optima's drives, it was not supported when Honda purchased his CD-R. Honda, however, managed to develop procedures for working around QuickTopix's limitations.

"If you're using traditional mastering programs, you have to defragment and make sure there's no problem with directory or desktop files."

Honda said he checks for errors with Cupertino, Calif.-based Symantec Corp.'s MacTools Pro. "Lately I just scan it, defragment it and master it," he said. "If you faithfully follow these steps, most of the time you'll come out OK." □

Bigger, faster discs on horizon

Just as stable mastering software is being paired with faster hardware, the apple cart may be upset in the next year as the mass-storage market starts shifting from CD-ROM to Digital Video Disc.

Boasting eight times the storage capacity and twice the speed of conventional CD-ROMs, the new disc standard is poised to make its debut in late 1996 or early 1997 from vendors such as Toshiba America Information Systems Inc. of Irvine, Calif., and Sony Electronics Inc. of San Jose, Calif. A recordable version of DVD is also in the works.

Mary Bourdon, senior industry analyst for optical storage devices at Dataquest Inc. of San Jose, said she doesn't believe that DVD will drive the market, but that it will have an impact on the tape segment.

David Honda, systems manager for Color Service Inc., is cautious but excited about DVD's potential. He said he sees the road to recordable DVDs following the same path that recordable CD-ROMs followed.

"We've already had some jobs where a CD-ROM just wasn't big enough," Honda said. "DVD is definitely interesting to us, but I'm wondering how long it's going to be before we can master one of those. If they decide on a recording technique, we'll jump right on it." — By Ross Scott Rubin

MACINTOUCH

From previous page

Apple also recently updated several Internet software components and made essential Internet programs more freely available. Download links, documentation and information are available on Apple's new CyberTech Web server at http://cybertech.apple.com/.

The Apple Internet Connection Kit 1.1 Upgrade provides new versions of several files in the kit, including MacPPP 2.5.

Apple Internet Mail Server 1.1 provides SMTP (Simple Mail Transfer Protocol) and Post Office Protocol services under a no-fee license agreement. (Apple does not yet provide support or documentation for this server.)

MacDNS 1.0.2 is a new version of Apple's domain name server, now available for download free of charge. This release, which supersedes earlier versions distributed with Apple Internet Server Solution bundles, fixes several bugs and is compatible with Open Transport. A list of frequently asked questions available at the CyberTech Web site covers several important features and limitations of the software.

Cyberdog updates are also linked to the CyberTech Web site, but http://cyberdog.apple.com/ is the Cyberdog home page and the place to get the latest news and software.

DeskWriter drivers

Printing on Hewlett-Packard Co.'s popular DeskWriter printers has been problematic with Apple's recent hardware and Mac OS releases and with virtual memory. Switching from a serial connection to LocalTalk often helped, but serial printing success almost seemed to be more random than deterministic among users wrestling with the problem.

Last fall, HP released DeskWriter 6.0.3 drivers (see 10.09.95, Page 42), which helped in some cases, but background printing remained troublesome, and there were crashes at start-up in some configurations. One work-around was to rename the HP Background extension to "~HP Background" to change its loading order.

> **Problems with third-party printers and print spoolers with PCI Macs remain.**

The company has now released HP Background 4.06, a file that supersedes the extension in the DeskWriter 6.0.3 package. Install DeskWriter 6.0.3 first, then replace its background extension with the newer version. The updates are available from a DeskWriter Web page at http://www.hp.com/cposupport/indexes/deskwrit.html.

More printing problems

System 7.5 Update 2.0 includes printing and serial driver fixes that also should improve printing reliability, but some problems with third-party printers and print spoolers remain, according to an Apple technical note apparently distributed to support partners but not to the public. The crashes and freezes occur only on PCI-based Power Macs and happen somewhat randomly. Inserting routers or bridges between print server and clients or using slower network cards (on Windows NT-based print spoolers) may help as work-arounds. Apple has not solved the problem yet.

An odd bug with Apple's Desktop Printing extensions and System 7.5.3 can cause out-of-memory problems, according to another source.

The problem occurs after opening the Extensions folder in a list view if there are numerous extensions. Work-arounds include eliminating Desktop Printing or not opening the Extensions folder, except in View by Icon mode. Apple is working on a fix. □

Comments on MacInTouch are welcome at (508) 897-2621. Please address e-mail to ricford@macintouch.com on the Internet or 72511,44 on CompuServe. The MacInTouch home page is at http://www.macintouch.com/.

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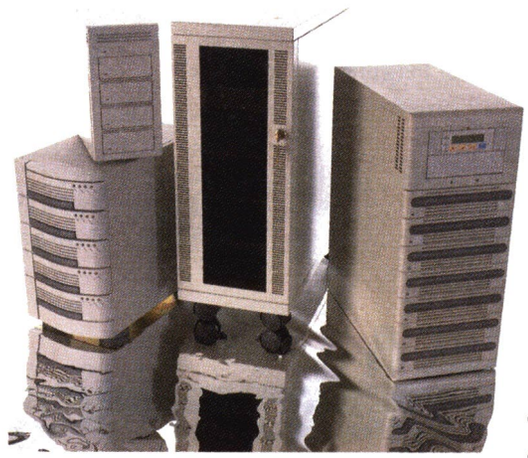

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-14GIG	Exabyte 8505XL	8MM	$ 2065	$ 2125
-14GIG	Exabyte 8700	8MM		$ 1575
-30GIG	DLT2000XT	1/2"		$ 3299
-40GIG	DLT4000	1/2"		$ 4999
-140GIG	Exabyte-10h Library	8MM		$ 4999
-200GIG	Spectra Logic 4000	4MM		$ 8599
-200GIG	DLT4500 Loader	1/2"		$ 8999

DIRECT CONNECTIONS 7668 Executive Drive Eden Prairie, MN 55344 Gov't, Corp, and Univ. P.O's accepted. *1YR Warranty 30 day money back does not apply towards media and software.

APS Technologies

BACKUP REALLY FAST!

APS HyperDAT® Pro

- ✔ Fastest DAT tape drive available
- ✔ Backup at up to 50MB/minute!
- ✔ Up to 8GB of storage per 120M DAT tape
- ✔ The new performance standard for network backup

JUST $1099.95 *External configuration*

With backup speeds as high as 50MB per minute, the APS HyperDAT Pro is the economical way to cut your backup (and restore) window in half. Ideal for server backups that require minimal downtime, the APS HyperDAT Pro uses standard 120m DDS-2 tapes which hold up to 8GB with compression*, and is compatible with all DDS and DDS-DC compliant tapes and mechanisms. **assumes 2:1 compression ratio*

650MB OPTICAL & 4X CD-ROM AT ONE LOW PRICE

APS PD4 $499.95 *External configuration*

- ✔ Combines removable optical storage and backup with CD-ROM in one device!
- ✔ Accepts 650MB rewritable optical cartridges and CD-ROMs interchangeably

Limited quantities, order now!

The new APS PD4 is the most versatile drive available for your Mac. Combining a fast 4X CD-ROM player with rewritable 650MB optical cartridge drive, the APS PD4 saves a SCSI address while performing these two important desktop functions.

2.6GB OF OPTICAL STORAGE!

APS 2.6GB MO $1799.95 *External configuration*

- ✔ Terrific value
- ✔ Our highest capacity removable media device
- ✔ 4MB cache buffer improves drive performance
- ✔ Up to 2.4GB formatted capacity on a single, double-sided cartridge

Its terrific capacity makes the APS 2.6GB MO a great storage solution for large image files, network storage, and other demanding data storage applications. To improve data throughput and handling of large files, the drive uses a huge 4MB cache buffer which is further optimized by special caching algorithms. The drive is also read / write compatible with other ISO-standard 2.3GB and 1.3GB MO cartridges and is read compatible with 650MB cartridges.

APS SYQUEST DRIVES

Model	Capacity/Feature	Awards	Internal	SR2000
APS SQ 3270	**255MB** Our best performing removable cartridge drive		N/A	$299.95*
APS SQ 5200	**194MB** Ultimate storage flexibility		N/A	389.95

**While supplies last! CALL NOW!* *SQ 270 Cartridge $54.95*

APS CD-ROM DRIVES

Model	Features	Awards	Internal	SR2000
APS T 3701	**6.7X-SPEED** Sustained data transfer rates up to 1000KB per second!		$249.95	$299.95
APS PD4	**CD-ROM/Removable Optical** 650MB optical storage with 4X CD-ROM in one device		N/A	499.95*
APS CD-R	**Recordable CD-ROM** FREE TOAST CD-ROM Pro recording software ($500 value)	NEW LOW PRICE	N/A	899.95*
APS CD-R Pro	**4X4 Performance CD-R** FREE TOAST CD-ROM Pro recording software ($500 value)	NEW LOW PRICE	N/A	1799.95**
APS CD-R Mastering System	4X read/4X write recording engine and a 4GB AV scratch disk		N/A	2999.95†*

**While supplies last! CALL NOW!* *†Also available with a 2GB hard disk*

APS MO DRIVES

Model	Capacity/Features	Awards	SR2000
APS 230MB MO	4500 rpm drive/230MB		$449.95
APS 2.6GB MO	NEW FROM APS — 4MB cache/2.6GB		1799.95

APS QIC & DAT TAPE BACKUP SYSTEMS

Model	Capacity/Features	Awards	Internal	SR2000
APS HyperQIC™	**2GB** QIC 3080 Mechanism	MacWeek	N/A	$499.95
APS DAT	**2GB** DDS-1 Non-Compression Mechanism		$649.95	699.95
APS HyperDAT®	**8GB** DDS-2 Compression Mechanism		849.95	899.95
APS HyperDAT® Pro	**8GB** DDS-2 High-Speed Mechanism		1049.95	1099.95

APS DLT TAPE BACKUP SYSTEMS

Model	Capacity/Features	Awards	Full-Height
APS DLT30	**30GB** Digital Linear Tape Mechanism	MacUser Editors' Choice Award 1995 FINALIST	$3499.95
APS DLT40	**40GB** Digital Linear Tape Mechanism		5499.95
APS DLT4500 Loader	**200GB** Digital Linear Tape Mechanism		9999.95

All APS tape drives include Retrospect® by Dantz®

APS CD-R

- ✔ Uses CD media with 100-year shelf life
- ✔ Random access gives you fast retrieval
- ✔ TOAST CD-ROM Pro software – FREE
- ✔ 1-year warranty

$899.95 *External configuration*

At the lowest price ever for 2x CD-R technology, the APS CD-R is a fantastic value for authoring, mastering or backing up to CDs. CD-R media costs less than 2¢ per MB and has an estimated 100-year shelf life. The APS CD-R has a giant 1MB cache buffer and supports all popular CD formats specified in the Orange Book Part II. The APS CD-R comes with a FREE copy of the award-winning TOAST CD-ROM Pro recording software.

CALL FOR YOUR FREE
Early Summer 1996 CATALOG
Featuring our complete line of APS Drives, Supplies & Accessories

APS MEDIA SALE

SyQuest®	SALE PRICE
SQ-400 (44MB)	$39.95
SQ-800 (88MB)	44.95
SQ-327 (270MB)	54.95

	SALE PRICE
DLT III CARTRIDGE	$39.95
DLT IV CARTRIDGE	99.95

maxell	SALE PRICE
60M DAT	$5.95
90M DAT	9.95

3M	SALE PRICE
106148 2.6GB MO CART.	$99.95
105202 PD 650 CART.	49.95

SONY	SALE PRICE
106151 3-PK 128MB MO	$59.95
106152 3-PK 230MB MO	79.95

These products are performance-matched for optimal performance in the PowerPC environment.

**Available only in full-height case*

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GREAT PRODUCTS... PRICELESS SUPPORT

STORE MORE, SPEND LESS!

Call us 24 hours a day, 7 days a week

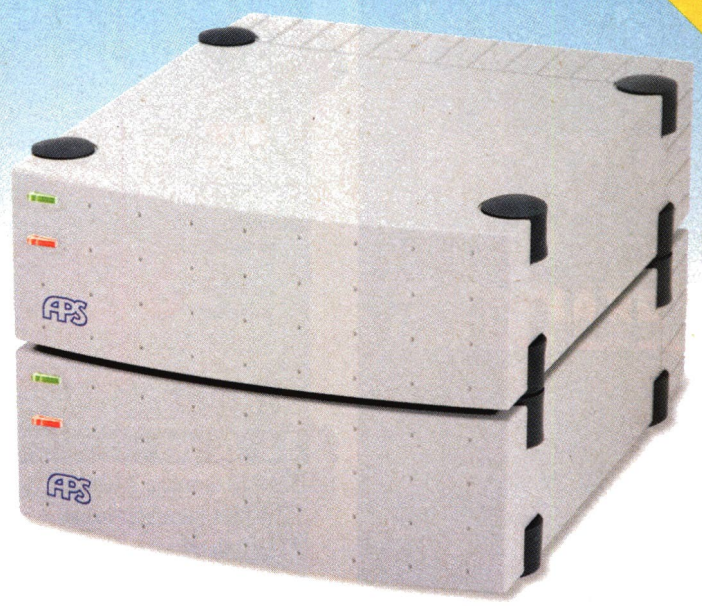
APS Q 1080

JUST $229.95 While Quantities Last

Internal configuration

- ✔ Well suited for home and office use
- ✔ Great for AV and non-AV applications
- ✔ 3.93MB/sec. sust. read, 4.27MB/sec. sust. write
- ✔ PRML technology delivers more storage to powerful CPUs & applications

For an incredible value in 1GB drives, look no further than the APS Q 1080. It is backed by a 3-year warranty and supports a 500,000 hour MTBF. If you're ready to take a step forward in drive capacity and performance, the APS Q 1080 makes that step an easy one to take.



7200 RPM PERFORMANCE, 5400 RPM PRICE

APS MS 2000

JUST $469.95 Internal configuration

- ✔ 7.31MB/sec. sust. write, 4.54MB/sec. sust. read
- ✔ 5400 rpm mechanism
- ✔ Performs like a 7200 rpm drive
- ✔ 5-year warranty

This incredible drive has the performance you'd expect from a 7200 rpm mechanism but with a 5400 rpm drive's price – and reliability! The APS MS 2000 formats to 2047MB, delivers sustained reads at up to 4.54MB/sec. and sustained writes at up to 7.31 MB/sec, has an average access time of 20ms and average seek of 9.6 ms. It has a 5-year warranty and is rated at 650,000 MTBF.

4GB OF STORAGE FOR ONLY

APS Q 4.0

JUST $899.95 Internal configuration

- ✔ Embedded servo eliminates thermal recalibration
- ✔ 7200 rpm mechanism delivers high transfer rates
- ✔ 2MB cache buffer boosts performance
- ✔ 5-year warranty

Using an embedded servo as well as a high-performance 7200 rpm mechanism, the APS Q 4.0 is equally at home with AV and non-AV applications. It is based on the Quantum Atlas XP 34300 mechanism with a 4300MB formatted capacity. The drive employs a huge 2048KB cache buffer and a unique cache-management algorithm to push data transfer rates as high as 10MB per second.

MacWorld Magazine World Class Award

MacUser Editor's Choice Award

Consultants Choice Award

APS SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS Q 840 Quantum 840 Trailblazer	811MB 4500 rpm		$189.95	NEW LOW PRICE $259.95
APS Q 1080* Quantum 1080 Fireball	1042MB 5400 rpm	MacWeek	229.95	NEW LOW PRICE 289.95
APS Q 1280 Quantum Fireball II 1280	1222MB 5400 rpm		269.95	369.95
APS I 2160 IBM Ultrastar ES	2063MB 5400 rpm		479.95	579.95
APS MS 2000 Micropolis 4421	2047MB 5400 rpm		469.95	NEW LOW PRICE 569.95
APS Q 2210* Quantum Capella	2047MB 5400 rpm		599.95	699.95
APS ST 4200 Seagate ST 15230N Hawk	4094MB 5400 rpm		889.95	NEW LOW PRICE 989.95

*While supplies last

APS IDE DRIVES FOR MACINTOSH

Model	Capacity/Features	Internal
APS Q 1280A Quantum Fireball II 1280	1222MB 5400 rpm (Fast ATA-2)	NEW LOW PRICE $229.95
APS ST 2140A Seagate Medalist ST32140A	2167MB 5400 rpm (Fast ATA-2)	349.95

To receive an automated fax listing of all APS documents, call 800-374-5802 from any touch-tone telephone.

Then call 816-920-4150 from a fax machine with a handset or fax modem and follow the instructions.

APS HIGH-PERFORMANCE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0 Micropolis 4221	1955MB 7200 rpm		$549.95	$649.95
APS MS 2.0AV Micropolis 4221AV	1955MB 7200 rpm		649.95	749.95
APS Q 2.0 Quantum Atlas XP32150	2050MB 7200 rpm		699.95	799.95
APS ST 2.0 Seagate ST 32550N	2047MB 7200 rpm		749.95	849.95
APS MS 4.0 Micropolis 3243	4064MB 7200 rpm		899.95	999.95
APS Q 4.0 Quantum Atlas XP34300	4101MB 7200 rpm		899.95	NEW LOW PRICE 999.95
APS MS 4.0AV Micropolis 3243AV	4064MB 7200 rpm		999.95	1099.95
APS ST 4.0 Seagate ST 15150N	4094MB 7200 rpm	MacWeek	1099.95	NEW LOW PRICE 1199.95
APS MS 9.0 Micropolis 1991	8669MB 5400 rpm		1899.95	2099.95*
APS MS9.0AV Micropolis 1991AV	8669MB 5400 rpm		1999.95	2199.95*
APS ST 9.0 Seagate ST410800N	8669MB 5400 rpm		NEW LOW PRICE 2099.95	2299.95*

- 30-day money-back guarantee on all APS brand products. Your risk is the cost of shipping.
- Drive-for-Drive Repair or Replacement Warranty. APS will, at its discretion, replace or repair products found to be defective according to the terms of the product's warranty.
- Refused orders subject to 20% restocking fee.
- Listed capacities are formatted.
- Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
- Internal hard drives include brackets, cables, cords and LEDs required for operation with the specified Macintosh where applicable. External SCSI-2 drives come with a premium SCSI cable, power cord and user guide.
- All hard drives from APS Technologies come preformatted with Apple's System 7.0.1 software, and APS Technologies' APS PowerTools SCSI formatter/hard disk partitioner. You may need to install system software appropriate to your machine before use.
- Prices and specifications are subject to change without notice. Not responsible for typographical errors.
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APS FAST/WIDE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0W Micropolis 4221W	1955MB 7200 rpm		$649.95	$749.95
APS Q 2.0W Quantum Atlas XP32150W	2050MB 7200 rpm		799.95	899.95
APS MS 4.0W Micropolis 3243W	4064MB 7200 rpm		999.95	1099.95
APS Q 4.0W Quantum Atlas XP34300W	4101MB 7200 rpm		999.95	NEW LOW PRICE 1099.95

FAST/WIDE ADAPTER CARDS

Model	External SCSI Connection	Internal
QLogic Fast!SCSI Mac PCI-W Adapter for Fast/Wide drives	HD 68-Pin	$379.95
SiliconExpress IV For NuBus Quadras & Power Macs only. Fast/Wide adapter card.	HD 68-Pin	849.95

APS POWERBOOK DRIVES

Model	Capacity/Features	Internal
APS Q 810 Quantum Europa	778MB 3800 rpm, IDE – Fast ATA-2	NEW LOW PRICE $339.95
APS Q 1.08 Quantum Europa	1037MB 3800 rpm, IDE – Fast ATA-2	NEW LOW PRICE 429.95
APS I 1.2 IBM Travelstar DPRS-21215	1200MB 4900 rpm, SCSI-2	699.95

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APS Technologies

REF. CODE: 307020

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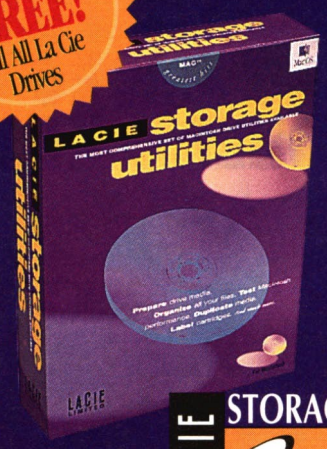

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Toll Free Technical Support

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INTERNAL HARD DRIVES

Special LOW Price

▲ High-performance drive and controller technology.

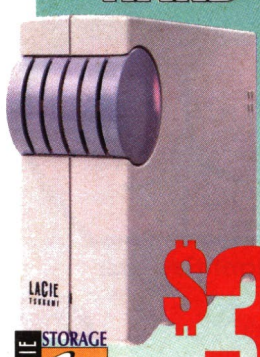
$888

Quantum Atlas 4.3 GB

3.5" Drives		
850MB Quantum Trailblazer	3 yr. warr.	$189
1280MB Quantum Fireball	3 yr. warr.	$265
2160MB Ultrastar ES	5 yr. warr.	$469
4.3GB Quantum Atlas 7,200 rpm	5 yr. warr.	$888

Brackets available for $10 with internal hard drive purchase.

TSUNAMI HARD DRIVES



▲ Ready to plug and play with switchable active termination, cables, and La Cie Storage Utilities.

▲ Up to 4.3GB capacity in a 6.5"x8.5"x2.2" compact case.

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Quantum 1280 MB

850MB Quantum Trailblazer	3 yr. warr.	$259
1280MB Quantum Fireball	3 yr. warr.	$335
2160MB Ultrastar ES	5 yr. warr.	$569
4.3GB Quantum Atlas 7,200 rpm	5 yr. warr.	$989

POWER WIDE HARD DRIVES

▲ Utilize Wide-SCSI technology for high-speed, high capacity file transfer

FAST: 1 drives + 1 card
WRITE 7.0 MB/Sec
READ 7.7 MB/Sec

FASTER: 2 drives, 2 cards + RAID
WRITE* 13.0 MB/Sec
READ* 14.3 MB/Sec

FASTEST: 3 drives, 3 cards + RAID
WRITE* 32.8 MB/Sec
READ* 27.0 MB/Sec

Power Wide External Drives		
2.0GB Quantum Atlas Wide + Wide PCI Adaptec 2940 Board	NEW!	$1199
4.0GB Quantum Atlas Wide + Wide PCI Adaptec 2940 Board	NEW!	$1399
2.0GB Quantum Atlas Wide + RAID + Wide PCI Adaptec 2940 Board	NEW!	$1299
4.0GB Quantum Atlas Wide + RAID + Wide PCI Adaptec 2940 Board	NEW!	$1499

★ RAID Level 0 (Striped) For PCI Macs only

CD-R DRIVES

▲ Low cost media for backup.

▲ CD-Rs ship with Gear Multimedia software.

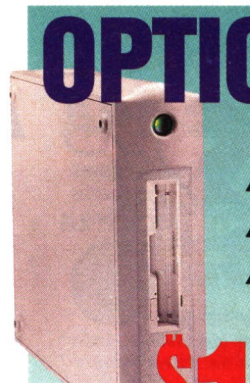
▲ Create your own CD with fast write capability.

$879

2X Recordable

CD-Recordables		
2X Recordable with Gear MultiMedia		$879
4X Recordable with Gear MultiMedia		$1499
650 CD-R Disk 74 Minutes	10 Disk Pack	$89

OPTICAL DRIVES



▲ Optical is the new standard in removable reliability.

▲ Available in two popular capacities.

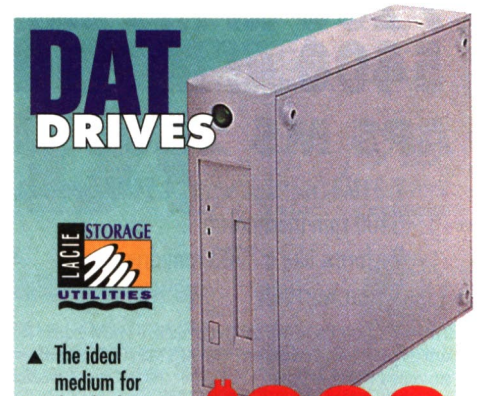
▲ Compact storage convenience.

$1999

2.6GB Optical

	Powerbook	Internal	External
230MB 1 yr. warr.	$399	$389	$399
230MB Optical Cartridge			$19.95
2.6GB External 1 yr. warr.			$1999
2.6GB Optical Cartridge			$99

DAT DRIVES



▲ The ideal medium for data backup.

▲ The cheapest backup solution per megabyte.

$899

8.0GB DAT DDS-2

DAT Drives Includes Retrospect	
2.0GB DAT External	$699
8.0GB DAT DDS-2 External	$899
8.0GB TURBO DAT DDS-2 External	$1089

PORTABLE JOULE DRIVES

MACUSER EDITORS' CHOICE AWARD 1995 FINALIST

▲ Docking provides new security and backup solutions.

▲ Share hard disk-sized files with diskette convenience.

▲ Unplug and go for convenient data transport.

Joule 3.5" Drives with Dock		
850MB Quantum Trailblazer	3 yr. warr.	$329
1080MB Quantum Fireball	3 yr. warr.	$369
2160MB Ultrastar ES	5 yr. warr.	$669
8.0GB DAT DDS-2 Includes Retrospect		$959
230MB Optical	1 yr. warr.	$499

TOWER JOULE DRIVES

3.5" Drives with Mount	For use in Tower with a Joule Base.	
850MB Quantum Trailblazer	3 yr. warr.	$329
1080MB Quantum Fireball	3 yr. warr.	$369
2160MB Ultrastar ES	5 yr. warr.	$669
4.3GB Quantum Atlas	5 yr. warr.	$1099
8.0GB DAT DDS-2 Includes Retrospect		$959
230MB Optical	1 yr. warr.	$499

Joule Bases – Supports Stacks Up To 6 Drives High		
850MB Quantum HD	3 yr. warr.	$389
1080MB Quantum HD	3 yr. warr.	$429
2160MB Ultrastar ES HD	3 yr. warr.	$699
230MB Optical	1 yr. warr.	$529

DLT DRIVES

Maximum Storage Capacity
Ideal for network servers and high-end work stations

▲ Transfer rates from 150 to 180 MB per minute.

▲ Flexible cache buffer automatically adjusts to slower host data transfer rates.

$2999

30.0GB DLT External

DLT Drives Includes Retrospect	
30.0GB Quantum DLT External	$2999
40.0GB Quantum DLT External	$4999

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MAC HOME JOURNAL

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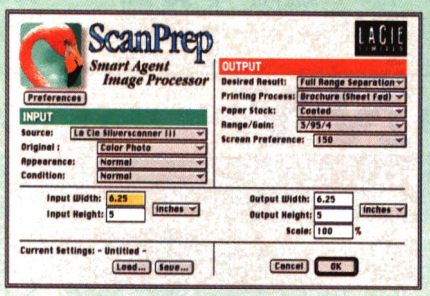
"ScanPrep is an essential application if you own a scanner… the sort of program that has to be seen to be believed."
Ben Long – MacWeek
Highest Possible Rating

"No matter what acquired plug-in you get if you use Photoshop, you'll also want to buy a copy of ScanPrep."
– MacUser
Highest Possible Rating



ScanPrep automates Photoshop's image processing tools, individually preparing each image for printing right before your eyes. Simply describe the project to ScanPrep and scan the base image. ScanPrep yields professional prepress results, quickly and easily.

ScanPrep provides automatic adjustment of picture contrast and color saturation. Even when the original is lacking in contrast or saturation, it corrects the problem without human intervention.

Silverscanner PRO
24 bit color, 300 x 600 dpi interpolated to 1200 dpi.
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▲ ScanPrep
▲ Omnipage Lite OCR
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Silverscanner PRO with Photoshop LE
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▲ ScanPrep ▲ Silverscan
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▲ ScanPrep
▲ Omnipage Lite OCR
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30 bit color, 400 x 800 dpi interpolated up to 3200 dpi.
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▲ ScanPrep ▲ Silverscan
▲ Omnipage Lite OCR
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1 Year Scanner Warranty

Silverscanner III
30 bit color, 600 x 1200 dpi interpolated up to 4800 dpi.
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▲ ScanPrep
▲ Omnipage Lite OCR
$1499

4

Silverscanner III with Photoshop Full
30 bit color, 600 x 1200 dpi interpolated up to 4800 dpi.
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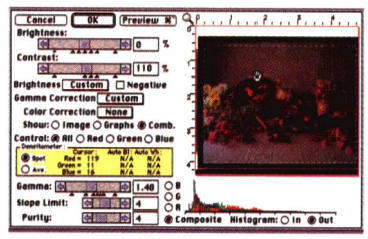
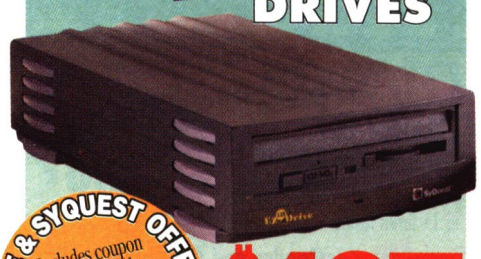
30 Day Money Back Guarantee

Sheet Feeder Adapter (DTP and III) **$499**
Transparency Adapter (DTP and III) **$799**



No matter which software bundle you choose, you'll also receive Silverscans' award-winning scanning software giving you professional scans.

SYQUEST DRIVES



LA CIE & SYQUEST OFFER!
Includes coupon for 2nd cartridge by mail for a total of 2 FREE cartridges! ($39.90 value)

$187 EZ135

EZ135MB 2 yr. warr. **$187**
Includes **ONE FREE** cartridge and coupon for **2nd FREE** cartridge by mail!

270MB External **$279**

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	Qty. 1	Qty. 10
Syquest SQ400 44MB	$38 ea.	$37 ea.
Syquest SQ800 88MB	$42 ea.	$41 ea.
Syquest SQ2000 200MB	$66 ea.	$65 ea.
Syquest EZ135 135MB	$18 ea.	$17 ea.
Syquest SQ3270 270MB	$54 ea.	$53 ea.
Optical 128MB	$23 ea.	$22 ea.
Optical 230MB	$25 ea.	$24 ea.
Optical 1.3GB	$59 ea.	$58 ea.
Optical 2.6GB	$99 ea.	$97 ea.
CD-R 74 650MB		$8.80 ea.
DAT 90m	$9 ea.	$8 ea.
DAT 120m	$20 ea.	$19 ea.
DAT Cleaning Kit	$9 ea.	$8 ea.
DLT 30 30GB	$40 ea.	$39 ea.
DLT 40 40GB	$98 ea.	$97 ea.

CLEARANCE

90 day warranties. Some drives refurbished. No rain checks. Quantity is limited to to stock on hand. First come, first served.

HARD DRIVES	PRICE	QTY.
85MB Quantum 2.5" Internal	$129	7
50MB Quantum Int. (unformatted)	$29	4
270MB Quantum Internal	$89	2
540MB Quantum Int. (unformatted)	$129	3
650MB Seagate 5.25" Int.	$129	3
730MB Quantum Int. (unformatted)	$139	10
1.2GB Seagate 5.25" Int.	$189	5
1.6GB Seagate Internal	$219	5
2.1GB Quantum Int. (unformatted)	$419	10
4.3GB Quantum Internal	$849	10
REMOVABLE DRIVES	**PRICE**	**QTY.**
128MB Optical Internal	$99	40
600MB Teac Tape Internal	$39	30
105MB SyQuest Int. (unformatted)	$89	40

LACIE LIMITED

INTERNAL HARD DRIVE
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Quantum Atlas 4.3 GB

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Genesis MP528

Multi-Processing power with FOUR 132MHz PowerPC processors

$8845* D042 1005

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- 512k Cache
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*Monitor & keyboard not included.

MONITORS

NEC

14" C400 Monitor

NEW PRODUCT

$299 N026 102

- 14" AntiStatic, Non-glare CRT
- .28mm dot pitch
- Max Resolution: 832x624

1 Year Manufacturer's Warranty

N026 1029	**14" C400 Monitor** 13.2" Viewable Image size	$299
N026 1033	**15" C500 Monitor** 13.8 Viewable Image Size	$399
N026 1031	**15" MultiSync XV15+** 13.8 Viewable Image Size	$469
N026 1036	**NEC M500 15"** NEW PRODUCT Chromaclear Monitor-13.8 Viewable Image Size	$599

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$799 BEST BUY

N026 1032

FEATURES

- 17" Flat Square Technology CRT
- 15.6" Viewable Image Size
- MAC Resolution up 1024 x 768 NI
- 0.28 mm dot pitch
- On-Screen Manager

N026 1032	**17" MultiSync XV17+**	$799
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Quality, High Resolution Display for Creative Professionals

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R016 1031	**PressView 17SR**	$1999

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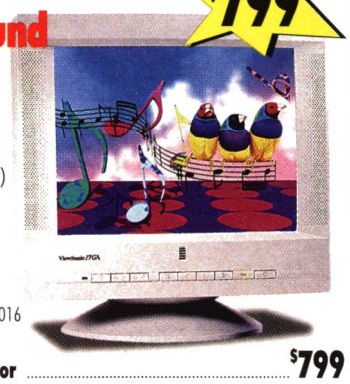

V056 1016

FEATURES

- HiFi Speakers built in
- 17" (15.7" Viewable Image Size)
- Max Res: 1280 x 1024
- PC and Mac compatible

BUILT-IN STEREO SPEAKERS

V056 1016	**ViewSonic 17GA Monitor**	$799
V056 1020	**ViewSonic PT770 Monitor**	$899

SONY

Multiscan 17SFII

$915

FEATURES

- 16.0" Viewable image size
- .25 mm Aperture Grille Pitch
- Max Mac Resolution: 1024 x 768 ™ 75hz
- On screen display of screen controls
- Macintosh Adapter included
- 3 Year Warranty parts and 2 Year CRT

S106 1018	**Sony Multiscan 17SFII**	$915
S106 1017	**Sony Multiscan 15SFII**	$515

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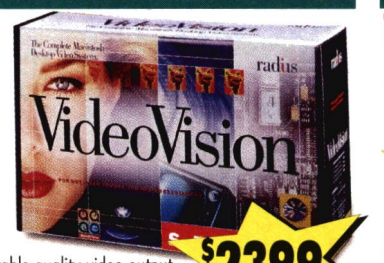

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MAC IIci, IIisi, IIcx, or IIx

Just plug in the Carrera040 accelerator and instantly get blazing performance from your existing Mac

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Reli 4830 Mac/TE Color Scanner

R060 1004 **Reli4830 MAC/TE Color Scanner** $899

R060 1016 **Relisys Scorpio Color Scanner** 300 x 1200 dpi $399

R060 1017 **Relisys Taurus Color Scanner** 600 x 1200 dpi $699

UMAX Powerlook II

The Magic of Color™

FEATURES

- 36-bit color scanning
- 600 x 1200 dpi
- 3.3 Dynamic Range
- Includes Transparency Adapter
- Package includes: Adobe Photoshop, KAI's PowerTools SE, PowerPhotos CD, WordLinx OCR, Pixar Typestry, & Pixar 128CD

U010 1052

U010 1052 **PowerLook II** 36-bit color scanning, 600 x 1200 dpi $2495

U010 1055 **Vista-S12 LE** $799

VISIONEER PaperPort Vx

FEATURES

- 6 second typical scan time
- 400 dpi resolution
- 256 Gray-scale imaging
- Scan Documents up to 30" long
- Includes OmniPage Lite, CardScan SE, PictureWorks Copier

V029 1008 **PaperPort Vx for Macintosh** $279

EPSON ES1200C Pro

FEATURES

- 600 dpi optical resolution,
- 30-bit color scanning
- Pro Package includes: Adobe Photoshop, Scantastic, KAI's PowerTools, SCSI cable

E045 1003 **Epson ES1200C Pro-MAC Color Scanner** Full Package $1179

E045 1007 **Epson ES1200C LE-MAC Color Scanner** w/Scantastic $949

E045 1013 **Epson ES1000C LE-MAC Color Scanner** $735

Nikon ELECTRONIC IMAGING COOLSCAN II

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N045 1008 **Coolscan II** $1199

MICROTEK ScanMaker III

Better Images Through Innovation.

FEATURES

- 600 dpi & 36-bit color scanning
- Includes Transparency Adapter
- Single pass scanning
- DCR (Dynamic Color Rendition) calibration/correction system
- Apple ColorSync compatible
- Package includes Adobe Photoshop

M150 1006 **Microtek ScanMaker III** $1989

AGFA Arcus II

FEATURES

- 600 dpi & 36-bit color scanning
- 3.0 Dynamic Range
- Includes Transparency Module
- Package includes:
  - Adobe Photoshop
  - Agfa FotoLook Scanner driver software
  - Agfa FotoTune Color Management software

A055 1001 **AGFA Arcus II** $1995

A055 1011 **AGFA StudioScan IIsi** $699

PRINTERS

EPSON Stylus Color Pro

FEATURES

- 720 x 720 dpi photo quality on plain paper
- PostScript upgradeable
- True black laser text
- Pantone matching
- Text print speed up to 3ppm, color 1ppm

E047 1019 **Epson Stylus Color Pro** $499

E047 1018 **Epson Stylus Color II** $299

Epson Stylus Color Pro XL

FEATURES

- Prints up to 12.5" x 18" full bleed Photoquality color
- 720 x 720 dpi photo quality with *I* technology
- Optional Adobe PostScript with Pantone Color Calibration

E047 1022 **Epson Stylus Color Pro XL** $1799

HEWLETT PACKARD HP LaserJet 5MP

FEATURES

- 600 x 600 dpi laser printing with HP Resolution Enhancement technology
- 120 levels of grey
- 6 ppm print speed
- 3MB RAM standard, expandable up to 35 MB w/Adobe Memory booster
- Adobe PostScript level 2 with 35 scale typefaces

H047 1030 **HP LaserJet 5MP Printer** $1045

HP DeskJet 855Cxi Printer

Features

- *COLOR PRINTER*
- Dual I/O for PC or Macintosh connection
- Black print speed up to 7ppm
- Color print speed up to 3ppm
- Handles plain and special papers, transparency film, and envelopes

H047 1065 **HP DeskJet 855Cxi InkJet Printer** $499

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G050 1016

G050 1016 **TelePort Platinum** 28.8 data, 14.4 S/R, GlobalFax, GlobalFax OCR $199

G050 1019 **PowerPort Platinum Pro** $499
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FEATURES

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- V.42/mnp 2-4 error control
- Macverter Fax and Data Software
- CD-ROM of Internet Access Software
- Discover the World Wide Web with your Sportster Guidebook

U020 1021

U020 1021 **US Robotics 28.8 Sportster for Mac** $195

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FEATURES

- V.34 and Flash ROM technology
- Includes caller ID, Silent Answer Fax and Voice Line Sharing
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- 28.8 kbps data speed with maximum throughput of 115, 200 bps, 144.4 send/receive fax
- V.42bis data compression MNP 2- & 10 error correction

S140 1007 **Fast Mac V.34 28.8 bps Fax/Data Modem** $218

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14ms Access Time
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Internal Fireball C104 0001

Capacity	Model	Part No.	Internal	Part No.	External
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1080MB	Fireball 12ms	C104 0000	$239	C104 0050	$299
1280MB	Fireball 12ms	C104 0001	$269	C104 0051	$329

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$939

Internal Atlas C104 0005

Capacity	Model	Part No.	Internal	Part No.	External
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2150MB	Atlas 8ms	C104 0004	$689	C104 0054	$749
4280MB	Atlas 8ms	C104 0005	$939	C104 0055	$999

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3.5" HALF HEIGHT & LOW PROFILE (LP)

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4.3GB	Barracuda 4 15150N	C104 0301	$1159	C104 0351	$1219
5.25" FULL HEIGHT					
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C104 0451

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BARRACUDA 4 4.3GB

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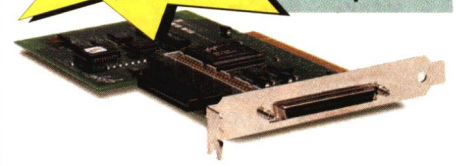
Seagate

2.1GB	Barracuda 2LP ST32150W	C104 0400	$799	C104 0450	$899
4.3GB	Barracuda 4 ST15150W	C104 0401	$1229	C104 0451	$1329
9.1GB	ELITE 9 ST410800W	C104 0402	$2099	C104 0452	$2219

Quantum

2150MB	Atlas XP32150SW	C104 0103	$749	C104 0152	$849
4280MB	Atlas XP34300SW	C104 0102	$1029	C104 0153	$1129

qlogic Corp.



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C104 0007

EUROPA 810MB

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1080MB	Europa IDE*	C104 0008	$419
3.5" HEIGHT DRIVES			
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190ms avg access time
Caddy-less design

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ClubMac®

		Access time	Trans Rate	
C104 1600	ClubMac Six-Speed CD-ROM Drive	140ms	900k/sec	$299
C104 1700	ClubMac 4.4X-Speed CD-ROM Drive	140ms	600k/sec	$169
C104 1400	ClubMac Classic 2X CD-ROM Drive	250ms	300k/sec	$79

NEC

		Access time	Trans Rate	
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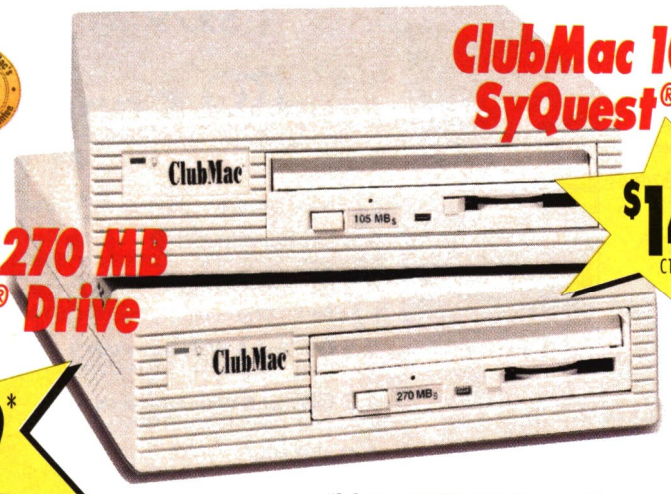

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Includes One Free Cartridge

iomega

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C104 1300	ClubMac 2.0GB ThunderDAT Drive	$749
C104 1301	ClubMac 4-8GB DDS-2 DAT Drive	$829
C104 1200	ClubMac 4-8GB DDS-2 SuperDAT Drive	$1059
C104 1302	ClubMac 4-8GB Performance DAT Drive	$1079
C104 0200	ClubMac 40GB DLT Subsystem DLT 4000	$4569
S100 1043	Sony QW3080XLF QIC/WIDE 2-4GB Cartridge	$29
V010 1018	Verbatim 90M 4mm DAT Cartridge 2-4GB	$9
S104 1008	Sony 120M 4mm DAT Cartridge 4-8GB	$29
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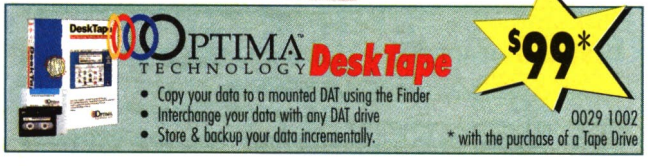
Includes One Free DAT Tape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- *IDEAL FOR YOUR MOST INTENSE AV OR DTP NEEDS...AN IDEAL SCRATCH DISK*
- *1,000,000 HOURS MEAN TIME BETWEEN FAILURE , 5 YEAR WARRANTY, 1 YEAR ADVANCE EXCHANGE*

2.2 GB ULTRA
•8 ms Seek •7200 RPM
•512K Buffer •5 YearWarranty
•MR Head Technology
All drives come preformatted with FWB for Maximum performance in AV and DTP environments.
$525 INTERNAL **$585** EXTERNAL

4.2 GB ULTRA
•8 ms Seek •7200 RPM
•512K Buffer •5 YearWarranty
•MR Head Technology
All drives come preformatted with FWB for Maximum performance in AV and DTP environments.
$895 INTERNAL **$955** EXTERNAL

540 MB IBM DESKSTAR
•9 ms Seek •5400 RPM
•128K Buffer •5 Year Warranty
$155 INTERNAL **$215** EXTERNAL

1080 MB IBM STARFIRE
•8 ms Seek •7200 RPM
•512K Buffer •5 Year Warranty
$279 INTERNAL **$339** EXTERNAL

Kingston TECHNOLOGY CORPORATION

Kingston memory now availble at ProDirect for ***ALL*** types of systems. Always call for the most competitive prices.

Quantum

420 MB ***TRAIL BLAZER***			**$149**	**$209**
11 ms Seek	4500 RPM	128K Buffer	3 Year Warranty	
535 MB ***Performance !***			**175**	**235**
9 ms Seek	5400 RPM	512K Buffer	5 Year Warranty	
850 MB ***Value!***			**189**	**249**
11 ms Seek	5400 RPM	128K Buffer	3 Year Warranty	
1080 MB ***Fireball***			**255**	**315**
11 ms Seek	5400 RPM	128K Buffer	3 Year Warranty	
1280 MB ***Fireball II***			**265**	**325**
11 ms Seek	5400 RPM	128K Buffer	*5 Year Warranty*	
2.2 GB ***Saturn***			**520**	**585**
8.5ms Seek	5400 RPM	1024K Buffer	5 Year Warranty	
2.0 GB **Atlas** ***New Low Price!***			**675**	**735**
8ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
4.3 GB **Atlas**			**925**	**985**
8ms Seek	7200 RPM	2048K Buffer	5 Year Warranty	

Fast & Wide SCSI AV Drives

2.0 GB ATLAS			**785**	**885**
8ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
4.2 GB ATLAS			**1015**	**1115**
8ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	

CONNER

1060 MB ***Quiet & Reliable***			**$265**	**$325**
9 ms Seek	5400 RPM	512 KBuffer	5 Year Warranty	
2.1 GB ***Fast AV Performance!***			**695**	**755**
8 ms Seek	7200 RPM	512K Buffer	5Year Warranty	
2.1 GB ***Fast & Wide -AV Performance***			**825**	**925**
8 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	
4.2 GB ***Fast AV Performance!***			**975**	**1035**
8 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	
4.2 GB ***Fast & Wide -AV Performance***			**1075**	**1175**
8 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	

MICROPOLIS

GOLD Series AV Drives *Recommended most for AV work*

2.1 GB • ***Also Available in Fast & Wide SCSI 2***			**589**	**649**
Fast SCSI 2 8.5 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	
4.3 GB • ***Also Available in Fast & Wide SCSI 2***			**1025**	**1085**
Fast SCSI 2 8.5 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	
9.0 GB • ***Also Available in Fast & Wide SCSI 2***			**2035**	**2135**
Fast SCSI 2 11ms Seek	5400 RPM	512K Buffer	5 Year Warranty	

SyQuest TECHNOLOGY

DRIVES			CARTRIDGES	
Capacity	***Model***	***External***	***Capacity***	***Price***
88 MB	SQ5110C	**$255**	**44 MB**	**$40**
135MB	SQEZ135	**195**	**88 MB**	**44**
200 MB	SQ5200	**325**	**135 MB**	**19**
270 MB	SQ3270	**339**	**200 MB**	**69**
			270 MB	**56**

MW ★★★★
MW EDITORS' CHOICE

PDC2400
•8 ms Seek•7200 RPM
•512K Buffer•5 YearWarranty
$725 Internal $785 External
Conner 21075 Mechanism
"Like an eye catching sports car, this 2.4 GB looks and goes fast"

Stackable •Active Termination

Featured Products

535 MB ***Performance !***			**$175**	**235**
9 ms Seek	5400 RPM	512K Buffer	5 Year Warranty	
Quantum 1280 MB ***Fireball II***			**$265**	**$355**
11 ms Seek	5400 RPM	128K Buffer	*5 Year Warranty*	
PDI 2.2GB Ultra XP			**$735**	**$845**
8ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
Seagate 4.2GB ***Barracuda 4***			**$1025**	**$1085**
8 ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
Seagate9.0 GB Elite			**$1965**	**$2065**
11 ms Seek	5400 RPM	1024KBuffer	5 Year Warranty	

PCI/NUBUS FAST & WIDE ACCELERATORS

FWB incorporated · Designed for Macintosh with PCI

New! FWB JackHammer **$455**
Fast/Wide 16BIT SCSI 2 accelerator card for Apple's Nubus based computers. Supports fast/wide SCSI 2 (16 Bit) transfer rates up to 20MB/sec. and fast SCSI 2 (8 Bit) transfer rates up to 10 MB/sec.

New! FWB PCI JackHammer **$385**
Single channel RISC based PCI to Fast/Wide SCSI 3 accelerator card for Apple's PCI based computers. Your best solution for your audio, video, prepress, and real time applications. Transfer rates up to 20MB/sec.

FWB RAID Toolkit.....Call!

Adaptec 2940WM **$295**
Adaptec's Power Domain 2940W-PCI to Fast/Wide SCSI 3 Accelerator. Increase transfer rates up to 20MB/sec. Ideal for Disc Arrays.

Atto Express PCI **$345**
Single channel RISC based PCI to Fast/Wide SCSI 3 accelerator card for Apple's PCI based computers. Ideal solution for your audio, video, prepress, and real time applications. Transfer rates up to 20MB/sec.

Atto Silicon Express 2 **$485**
SCSI 1&2 supports transfer rates up to 10.0 MB/sec., multiple block sizes, parallel processing capability.Ideal for graphic design, multimedia applications.

Atto Silicon Express 4 **$829**
Fast/Wide 16BIT SCSI 2 accelerator card for Apple's Nubus based computers. Supports fast/wide SCSI 2 (16 Bit) transfer rates up to 20MB/second. Full 16 Bit wide support for disk arrays.

REMUS Disk Array RaidLevel 0 - 5 **$Call**

Seagate

1080 GB			**$265**	**$325**
9 ms Seek	5400 RPM	512 KBuffer	5 Year Warranty	
2.5 GB Barracuda 2			**710**	**765**
8 ms Seek	7200 RPM	1024K Buffer	5Year Warranty	
4.3 GB Barracuda 4 ***New Price!***			**1025**	**1085**
8 ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
2.5 GB **Fast & Wide Barracuda 2**			**755**	**855**
8 ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
4.3 GB Fast & Wide Barracuda 4			**1185**	**1285**
8 ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
9.0 GB Elite			**1965**	**2065**
11 ms Seek	5400 RPM	1024KBuffer	5 Year Warranty	
9.0 GB Fast & Wide Elite			**2075**	**2175**
11 ms Seek	5400 RPM	1024KBuffer	5 Year Warranty	

90 Day Performance Guarantee !!

Tape Backup Drives

All ProDirect Tape Drives Include The Latest Version of Retrospect and 1 Piece of Media.

HEWLETT PACKARD

Capacity	***Model***	***Media***	***Int.***	***Ext.***
2.0 GB	35470	4mm	**$925**	**$985**
3-5 GB	35480	4mm	**995**	**1055**
4-8 GB	1533A	4mm	**1235**	**1295**
24-48 GB	1553A		**3195**	**3295**
Auto Tape Loader				

Exabyte

Capacity	***Model***	***Media***	***Int.***	***Ext.***
2-5 GB	8205XL	8mm	**$1395**	**$1485**
7-14 GB	8505XL	8mm	**2055**	**2115**

Quantum DLT

Fastest Drives Made Today!

DLT2000XT **$3199**
30GB Capcity•*TRANSFER RATE 150 MB PER MINUTE*

DLT4000 **$4925**
40GB Capcity•*TRANSFER RATE 180 MB PERMINUTE*

DLT4500 • ***200 GB Capacity*** **$8899**
TRANSFER RATE 180 MB PERMINUTE

DLT4700 • ***280 GB Capacity*** **$11395**

CD ROM & CD WRITERS

4x Toshiba CD ROM 150 MS seek	**$235**
4 x 6 Disk Pioneer CD ROM Changer	**$339**
6.7x Toshiba CD ROM ***New Price!*** 102 ms Seek256 K Cache	**$295**
2x Yamaha CDE 1020 2x CD Writer• 4x CD ROM	**$795**
4 x Yamaha CDE 100 ***New Price!*** 4 x CD Writer•Multisession•Selectable Speed	**$1275**

Includes TOAST PRO CD Writer Software
Prices are external and include all cables and software for a PLUG & PLAY Solution.

All prices are subject to change without notice. Returned products are subject to a restocking fee. International customers pay all shipping charges. All shipping charges are non-refundable. To return merchandise call for an RMA number. All RMAs must be returned within 10 business days of issuance. Customers are responsible for all returned product shipping charges.

Quantities are Limited... Supplies Won't Last...

AWARD WINNING PRODUCTS AT OR BELOW DEALER COST!

DISPLAYS

TWENTY ONE INCH DISPLAYS

21 Inch DiamondTron Monitor — from $1999*
- Rated Superior to Trinitron
- Largest Aperture Grille monitor available
- Up to 1600x1200 on Macs and PCs
- Full Digital Control from Keyboard

Radius SuperMatch 21 TXL	from $1699*
Radius PrecisionView 21	$CALL
Radius PressView 21sr	from $2899*
Radius PrecisionView 21T	$CALL
SuperMac PressView 21 "Editors Choice"	$1999*

Radius PrecisionColor Display 21 — $1499* (Compare at $2399)
- 1600x1200 to 1024x768
- Razor sharp dot pitch
- Best for color accuracy
- Selectable color temperatures

RasterOps SuperScan MC 21	$CALL
Radius Multiview 21	$CALL
Radius 21 inch Grayscale Display	$799

*With qualifying videocard, accelerator, or computer purchase

TWENTY INCH DISPLAYS

TWO PAGES FOR THE COST OF ONE! While Supplies Last!—Your Choice of...

SuperMac SuperMatch 20 PLUS — Retail $1999 — $999*
- Up to 1152x870 resolution
- Advanced Digital Controls
- Non-glare, Dynamic-Focus CRT

Best Screen Uniformity!

Radius PrecisionColor 20v	$1099*
Digital 20 inch Display Up to 1280x1024	$1399
RasterOps 20 Multimode	$1299
Radius PrecisionColor 19	$899

Radius IntelliColor Display 20 — from $1499* Retail $2399
- MacUser, MacWorld, MacWeek Editor's Choice
- 1600x1200 to 640x400

Apple Multiple Scan 20 Display	$CALL
Ikegami 20 inch Grayscale Display	$699
Radius 20 inch Grayscale Display	$699

*With qualifying videocard, accelerator, or computer purchase

SEVENTEEN INCH DISPLAYS

SuperMac/E-Machines T16IIMR — Compare at $1299 — $599*
- High Grade Studio Trinitron Series
- .25mm multi-resolution
- Editors Choice
- 1024x768 to 640x480 resolutions

SuperMatch 17T	$799*
PrecisionColor Display 17	from $899
PrecisionView 17	$CALL
Radius PressView 17sr	$CALL
SuperMac SuperMatch 17	from $499*

*With qualifying videocard, accelerator, or computer purchase

PORTRAIT DISPLAYS

Radius Color Pivot LE — $399*
We have cards for SE/30, LC, IIsi, Nubus, and Quadras

* With purchase of video card.

PrecisionColor Pivot	$599
Grayscale Pivot	$399
Radius Full Page Display	$CALL
Apple Portrait Display	$399
Portrait Display Labs 1700	$CALL
E-machines ColorPage 15 with NUBUS card	$499

COLOR CALIBRATORS

SuperMac Display Calibrator only	$199*
SuperMac Display Calibrator PRO	$499
Radius Mac ProSense Calibrator	$799

*With monitor purchase

VIDEO CARDS

1600x1200 PCI & NUBUS

Radius Thunder IV GX 1152	$BELOW COST
Radius Thunder II GX 1360 & 1600	from $999
Radius Thunder IV GX 1360 & 1600	from $1599
Radius Thunder 24/GT (accepts PhotoEngine)	$CALL
Radius ThunderColor 30/1152 & 1600	$CALL
IMS Twin Turbo 128M (4MB with MPEG)	$599
Radius PrecisionColor 8/1600	$499
EA Research EAsycolor 1600/16	$CALL

21" RESOLUTIONS

Radius PrecisionColor Pro 24X	$699
Thunder 8 "Fastest 8 bit card ever"	$CALL
Thunder 24 (DSP available)	$CALL
Radius LeMans GT	$799
SuperMac Ultura LX*	from $899
RasterOps Horizon 24*	from $999
RasterOps 24XLTV	$1999
RasterOps Prism GT	$CALL
Radius PrecisionColor 8XJ	$499

*DSP Available

20/19" RESOLUTIONS

SuperMac Spectrum 24 Series V	$599
Radius PrecisionColor Pro 24XK	$CALL
SuperMac Futura MX	$499
RasterOps PaintBoard Lightning	$CALL
SuperMac Spectrum 8 PowerView/SuperView for Powerbooks	$199
	$199/$299

17/16" RESOLUTIONS

Radius 24 bit video cards	from $199
Radius PrecisionColor Pro 24XP	$CALL
SuperMac Futura SX	$299
RasterOps 24 MX	$399

PHOTOSHOP ACCELERATION

"If you frequently need to retouch large image files in Adobe Photoshop using such filters as Gaussian Blur, Sharpen, and Emboss, then you need either to have the patience of Mother Teresa or a digital signal processor (DSP) board." –Macworld

Radius PhotoEngine — from $399*
- Four AT&T 3210 66MHz DSPs
- Accelerates Photoshop Filters
- Up to 15x acceleration on all Macs
- MacUser Editor's Choice
- Available in Daughtercard or NUBUS versions

Standard video cards do not provide acceleration for many critical Photoshop functions, because they do not have on-board Digital Signal Processors (DSPs). When installed in your system, DSPs are used by Photoshop to process time consuming commands more than 10-times faster than built-in video.

Greatest Improvement Areas:
- Filters such as those in the Sharpen and Blur submenus
- Mode conversions such as RGB to CMYK color separations
- Image transformations such as rotations, effects, and resizes.

Radius PhotoBooster (NUBUS or Rocket/PDS)	$199
SuperMac ThunderStorm DSP Boards	$299
Radius Color Engine for Thunder 30 Cards	$CALL
Radius PhotoEngine Nubus	$CALL
Adobe Photoshop 2.5 Deluxe CD Edition	$CALL
RasterOps Paintboard DSP Upgrades	$CALL
Radius GX (CMYK acceleration) Upgrades	from $349

Stop wasting valuable time: Imagine using filters that normally take twenty minutes to process finishing in only two to four minutes! How much additional time would you save in just one week? You can't afford to be without DSPs.

PRINTERS

We have purchased excess printer inventories DIRECT from the manufacturer, so you can save over 50-75% on most of our current printers. DO NOT WAIT, as quantities are extremely limited and supplies will NOT last!!

COLOR LASER PRINTERS

Color Laser Printers are the best choice for printing text, graphics and color. They use a similar printing process to monochrome printers and output on standard laser paper, which means your prints will not fade or crease. The cost to add color to your documents is now only a few cents more per page. For a LIMITED TIME ONLY, you can purchase a Color Laser Printer for under $2,000--call now to order!!

QMS Color Laser Printer — from $1999
QMS ColorScript 1000
- Internal SCSI drive
- Powerful RISC processor
- PostScript Level 1, 2 and HP/PCL-5

QMS Magicolor	only $2999
Tektronix 540 Plus	$CALL
Apple Color Laserwriter 12/600PS	$6279
Xerox 4900 series Color Laser	from $5589

TWO PAGE COLOR PRINTERS

Radius Proof Positive — $BELOW COST
- Award Winning dye-sublimation printer
- Full-bleed two page and one-page models
- True Adobe Postscript Level 2
- All consumables available

11x17 Tabloid Color Printers	from $2999
Fargo Pictura 310 Color Printer	$CALL

- Up to 12"x18" output
- Dual-function dye sub and wax thermal
- Editors Choice

QMS ColorScript 210/230	$CALL

- Up to 11x17" full-bleed output

TABLOID LASERS

QMS 860 Hammerhead 600-1200dpi — from $1999
- 11 x 17 full bleed
- PostScript Levels 1&2
- 8ppm heavy-duty Canon engine
- Powerful RISC processor

Hewlett-Packard 4mv	$CALL
GCC SelectPress 1200x1200dpi	$4999
QMS PS2210/2220	$1499/$1699

- 20,000 page monthly duty cycle
- 22ppm • Dual-tray input

HOME/OFFICE

360 DPI Color Printer — $199
Star SJ-144MC
- Full-Color output at crisp, laser-quality 360dpi Printer
- Heat Fusion process avoids ink-jet smear
- 2-year Manufacturer's Warranty
- ADD box of 3 Color Cartridges ($57 value) only $29

* With purchase of any other item in ad

Hewlett-Packard 5mp	$CALL
Apple Laserwriter Select 360	from $1199
QMS 815/815mr 8ppm, 600dpi	$699/$999
QMS PS 825/825mr 600dpi	$799/$1099
QMS 1060 10ppm, 600dpi	$CALL
QMS PS 1500 15ppm	$1299
QMS PS 1700 17ppm, duplex optional	$1999
Apple OEM Laserwriter 8ppm	$499
Seikosha SP-2400AP dot matrix	$179
Apple Imagewriter/Stylewriter	$CALL
GCC WriteMove/WriteMove II	$149/$249

New and Reconditioned Models of Most Items Available

CPU SPECIALS

POWER MACS

PowerMac Performa 6200 — from $999*
- Power PC 603/75MHz RISC processor
- Ready for Apple TV/Video/Presentation Systems
- Internal quad-speed CD-ROM bay

PowerMac Performa 5200CD — $BELOW COST
- Integrated 15" Trinitron Display & AV ports
- Power PC 603/75MHz RISC processor
- Internal quad-speed CD-ROM drive with software
- 14.4Kbps modem included

Power Macintosh 7100/80 8/700/CD — $1299*
- 80MHz PPC 601 RISC processor
- AV upgrade supports full motion video
- Expandable, with three Nubus slots

*CPU only, with Qualifying Card or Monitor Purchase

All PCI PowerMacs Available -- CALL for Lowest Prices Ever!!

PowerMac 8100 16/1GB/CD	$IN STOCK
Radius 81/110 16/730/CD	$CALL
PowerMac 6100 8/350/CD	from $999

MAC II SERIES SYSTEMS

Mac IIsi Color Pivot System — $299 CPU only
- Macintosh IIsi with 5MB RAM/80MB HD
- Radius Color Pivot Display
- Extended 105-key Keyboard $799 Complete
- FREE ClarisWorks!

Add Radius Card for Display to TV only $99

Macintosh II 4/40 w/video card installed	$299*
Macintosh IIfx 4/250 50MHz upgrade available	$499*
Add Apple Cache Card to Macintosh IIci	$39

*with purchase of any qualifying monitor

Mac IIcx 15" Color System — $275 CPU only
- Macintosh IIcx with 4MB RAM/80MB HD
- E-machines ColorPage 15" Display
- NUBUS accelerated video
- Extended 105-key Keyboard $849 Complete
- FREE ClarisWorks!

Add MacRecorder to Mac IIcx	only $99
Add Ethernet card to Mac IIcx	from $99
Mac Plus System w/Keyboard & Mouse	only $149
Macintosh SE30	from $299
ADD an External Modem to any CPU	$49

POWERBOOKS

PowerBook 5300 series	$CALL
PPC Upgraded Color PowerBooks	from $2299
PowerBook 520c	from $1499
PowerBook 190 series	$CALL
PowerBook 160/180	from $999
PowerBook Duo 210/230	from $699
PowerBook Duo 270c/280c	$CALL
Ethernet Dock for Powerbook Duo's	$399*
Apple Duo Docks	from $499*
Add GCC WriteMove II portable printer	$199*

*with purchase of a PowerBook

CPU UPGRADES

Daystar PowerPC and 040 Accelerators	$CALL
Radius Rockets 33MHz to 40MHz	from $399
Stage Two Rocket 40MHz w/FPU	$699

-includes SCSI II Booster and RocketShare

Rocketshare multiprocessing software	$299
Speed upgrades for all 680X0 and PPCs	$CALL

QUADRA BLOWOUT

Quadra 700 8/80/CD — $799*
- Powerful '040 processor
- Upgradable to Power PC
- NuBus expansion slots

Quadra 950 8/500, NEW — $1399
* with purchase of any qualifying monitor or video card

Quadra/Centris 610 8/80/CD — $699*
- Powerful '040 processor
- Multi-media ready with internal CD-ROM
- Built-in video supports up to 21" color monitors
- Software bundle with ClarisWorks, CD titles

Nubus Adapter for Quadra 610 — $99*

Macintosh Quadra 605/LC475 — $599 CPU only
- NEW CPU, with 4MB RAM and 250MB HD
- Powerful '040 processor
- Radius Full Page Display
- Apple Design Keyboard $899 Complete
- ClarisWorks

Add Radius Card for Display to TV only $99

DIGITAL VIDEO

Video Vision Studio 2.5.1 — $1999*
- 24bit Full-Screen, Full-Motion Video
- Includes Adobe Premiere and VideoFusion
- Breakout bar supports dual input

* with purchase of Studio Array

Video Vision Studio Array — $1999
- 4GB RAID Customized for Video Vision
- Includes FWB Jackhammer SCSI accelerator
- Chain up to three Arrays together (4GB,8GB,12GB)

Video Vision Telecast — from $2999
- Full-motion, broadcast-quality video
- Available as upgrade for Video Vision Users

TRUEVISION Targa 2000 PCI/NUBUS	$CALL
RasterOps 24XLTV	$1999
RasterOps 24STV	$999
RasterOps 24MXTV	$CALL
RasterOps MoviePak II JPEG Daughtercard Upgrade	$CALL
Spigot II Tape Now Bundled with Adobe Premiere	$499
Apple PowerMac AV Card	$CALL
VideoSpigot Cards Nubus/LC/IIsi	from $99*
Radius Spigot Power AV	$799

*With purchase of Adobe Premiere

DRIVES

1GB OPTICAL NOW WITH 4MB CACHE!

Don't bother building a library of tiny 44, 200 or 230 MB optical and Syquest cartridges. After buying only 10 1.0GB cartridges your savings will pay for this drive.

MAXOPTIX TAHITI 1GB — from $599
- 4MB Cache, 9x more than 230 MB Optical Drive
- Maximum Reliability with 25 year operating life
- Reads 650MB and WORM cartridges

Pinnacle Micro APEX 4.6GB Optical Drive	$CALL
Pinnacle Micro CD-Recorders	from $799
NEC 4x External CD-ROM Multimedia Kit	$249
NEC 3x External CD-ROM Multimedia Kit	$199
Apple or NEC 2x External CD-ROM Multimedia Kit	$179
Iomega ZIP, JAZ drives	from $199
Apple 250mb HD internal/external	$125/$200
Apple 350mb HD internal/external	$175/$250
Apple FDHD auto insert floppy	$199
FWB Jackhammer SCSI accelerator PCI	$399
FWB Jackhammer SCSI accelerator NUBUS	$499
Daystar SCSI PowerCard accelerator NUBUS	$299

COOL STUFF

WGS 6150 16/500CD/AppleShare	$2499
WGS 8150 16/1GB/CD/DAT/AppleShare	$3999
Daystar SCSI/Link External Ethernet Adapter	$299
Apple 8•24 GC	$399
E-machines Big Picture 17" gs monitor & card	$499

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VIDEO CARD BUYING GUIDE - ALL HARD TO FIND CONFIGURATIONS ARE IN STOCK NOW!!

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Radius FPD Card	Mac Plus	Mono	–	–	–
Radius Pivot Card	SE/30	256	–	–	–
Xceed Color 30hr	SE/30	256	256	256	256
Lapis Color 16	SE/30	Thousands	Thousands	256	256
Lapis Color 24	SE/30	Millions	Millions	256	256
Radius Direct Color/gx	IIsi	Millions	–	–	–
SuperMac Spectrum 8	IIsi	256	256	256	256
SuperMac Spectrum 8.24	IIsi	Millions	256	256	256

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Radius FPD Card	Mac SE	Mono	–	–	–
SuperMac Superview	Mac SE	–	–	Mono	–
Radius TPD Interface	Mac SE	–	–	–	Mono
RasterOps 8/LC	LC/PDS	–	–	256	–
SuperMac Spectrum 8	LC/PDS	256	256	256	256
Lapis Color 16 for LC	LC/PDS	Thousands	Thousands	256	256
Micro Conversions 1724	LC/PDS	Millions	Millions	256	256
Lapis Color 24 for LC	LC/PDS	Millions	Millions	256	256

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Double Color SX	Nubus	256	256	16	–
RasterOps 708+	Nubus	256	–	256	–
RasterOps 24L	Nubus	Millions	–	–	–
RasterOps 8/LC	Nubus	–	–	256	–
SuperMac Spectrum 8	Nubus	256	256	256	–
Double Color LX	Nubus	256	256	256	256
Radius Direct Color 24	Nubus	–	–	–	Millions
E-machines Futura MX	Nubus	Millions	Millions	Millions	–

The LLB Company, Inc.

1-800-848-8967

International: 206.746.0229 **WEB SITE: HTTP://llb.com** **Fax: 206.746.5168**

MEMORY

Standard 30-pin SIMMs

1MB 100/80/70NS	$26/22/33
2MB 80/70NS	44/46
4MB 80/70NS	72/77
8MB 70NS	179
16MB 70NS	455

30-pin, 9 bit PC SIMMS

1MB 70NS	$30
4MB 70NS	130

72-pin SIMMs

4MB 70/60NS	$50/53
8MB 70/60NS	99/103
16MB 70/60NS	207/209
32MB 60NS	446

72-pin, 9 bit PC SIMMS

4MB 70NS/60NS EDO	$89/75
8MB 70NS/60NS EDO	189/150
16MB 70NS/60NS EDO	300/349
32MB 70NS/60NS EDO	875/636

PB 5300 Series

8MB/12MB RAM	$213/270
16MB/32MB RAM	400/785

PB 190 Series

4MB/8MB 70NS	$129/209
12MB/16MB 70NS	299/495
32MB70NS	1219

PB500 Series

4MB/8MB RAM	$133/211
16MB/32MB RAM	425/840

8MB 72PIN $99

4MB PAL SIMMs for II,IIx

4MB 70NS	$129

64-pin SIMMs for IIfx

1MB 80/70NS	$26/43
4MB 80/70NS	155/155
8MB 70NS	305
16MB 70NS	520

168-pin DIMMs

4MB 60NS	$125
8MB 60NS	118
16MB 60NS	223
32MB 60NS	448
64MB 60NS	995

PBDUO 210/230 Series

PB DUO-4MB	$159
PB DUO-8MB	260
PB DUO-12MB	445
PB DUO-14MB	455
PB DUO-20MB	698
PB DUO-28MB	899

What type of Memory do I need?

Standard 30-Pin Simms:
Plus, SE, SE 30, Classic, Classic II, Color Classic, LC, LCII, Performa 200, Performa 400-430, Performa 600, Quadra 900/950, Mac II, IIx, IIcx, IIsi, IIci, IIfx, IIvx, IIvi.

Standard 72-Pin Simms:
Quadra 605/630, 610, 650, 700, 800/840AV, LCIII, LC475, LC630, Performa 450-560, 575 and 6115CD, PowerMac 6100, 7100, 8100, WS 80, WS60, WS 95, WS 6150 and WS 8150, 9150.

168 Pin Dimms:
PowerMac 9500, 8500, 7500, 7200

MODEMS

GLOBAL VILLAGE

Teleport Platinum 28.8 V.34	$205
PowerPort 1XX Platinum 28.8 V.34	339
PowerPort Platinum PC Card 28.8	349
PowerPort Platinum PRO PC Card	519

SUPRA

SUPRA Simple Internet 28.8 Ext.	$159
SUPRA 28.8 V.34	207
SUPRA 28.8 PB FAX Modem	189
SUPRA EXPRESS 144 PLUS	99
SUPRA EXPRESS 288 External V.34	159

US ROBOTICS

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Sportster14,400 Mac & Fax	119
28.8 V.34 PCMCIA Sportster	291

TDK

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Global Class 288 V.34 PCMCIA	355

Motorola

Lifestyle 28.8 V.34	$212
Power 28.8 V.34	270
ISDN Bitsurfer PRO	369

MEGAHERTZ

Cruise Card 14.4 PCI	$135
Cruise Card 28.8	295
Cruise Card 14.4	159

PRINTERS

APPLE

Color Stylewriter 2500	$375
Laserwriter 4/600	895
Personal Laserwriter 320	809

HEWLETT PACKARD

HP LaserJet 4MV	$2840
HP LaserJet 5P Plus	888
HP LaserJet 5si	2860
HP DeskWriter 660C	399

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EPSON

STYLUS COLOR 1500 PRINTER	$995
STYLUS COLOR PRO XL PRINTER	1795

SCANNERS

EPSON	1200C PRO	$1202
VISIONEER	PaperPortVX for Mac	295
Nikon ELECTRONIC IMAGING	CoolScan II External	1349
	Super CoolScan	1999
AGFA	StudioScan IISI	935
	ARCUS II	1941
POLAROID	SPRINTSCAN	1555

UMAX

POWERLOOK I I	$1988
VISTA S-12 PRO+	908
VISTA S-12 LE+	808
VISTA S-6 E+ PRO/LE	508/608

DRIVES

APPLE

1.2GB	449	2GIG	799
850MB	339		

QUANTUM (EXTERNAL)

1.2GB Ext. Fireball $359	850MB Ext. Trailblazer .. 279
Atlas 4.3 GB	1079

200MB SyQuest w/Cart	$479
270MB SyQuest w/Cart	479

NEC

6XE Multi-Spin CD-ROM Drive	$519
4XC 7CD Changer	369

FWB incorporated

2X CD Recorder/Writer	$1375
4X CD Recorder/Writer	1999

SyQuest

EZ135 W/Cartridge $187

Iomega

Iomega Zip Drive	$199
Jaz 1.0GB Drive Ext/Int	599/549

PINNACLE MICRO THE OPTICAL STORAGE COMPANY

RCD1000 w/10 Recordable CD's	$1295
RCD5020 Ext. CD Recorder	1265
APEX 4.6GB Optical Drive	1589

MEDIA

Verbatim - *Call for current prices on the full line of Verbatim*

DataLife 4mm/8mm Data Cartridges	
8mm, DL 112 Meters 2.5/5.0GB	$7
4mm, DL 60 Meters DDS-MRS 1.3GB	7.50
4mm, DL 90 Meters DDS-MRS 2.0GB	9.50

Iomega

Iomega ZIP Cartridge 100MB	$19
- 3pack/10 Pack	49.50/139
Iomega Jaz 1GB Cartridge/5 Pack	123/490
Iomega Jaz 540MB Cartridge/5 Pack	69/294

SyQuest

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FPUs/CoProcessors VRAM/Accelerators

FPU's/Math CoProcessors

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FPU Color Classic 16MHZ	44
FPU LCIII 25 MHZ/FPU LC,LCII 16 MHZ	49/49
LC575 33MHZ Math CoProc.	240

VRAM/CACHE

256K 80NS Video RAM	$17
512K Video RAM	22
1MB Video RAM PM72/75/8500	55
2MB Video RAM PM 9500	225
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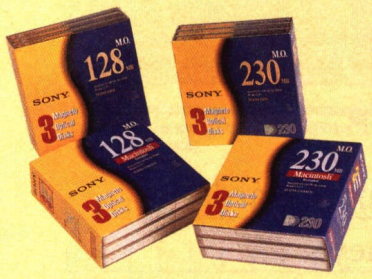

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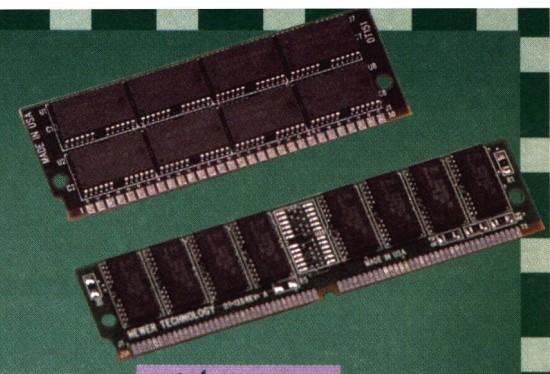

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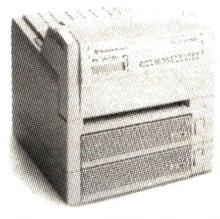

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☐ 01. Yes ☐ 02. No

1 What is your organization's primary business activity at this *entire* location?
(Select one only) Write Answer Here ➨

Non-Computer Related
01. Graphic Arts
02. Publishing
03. Advertising, Public Relations, Promotion
04. Digital Media Development
05. Entertainment/ Broadcast
06. Commercial Printer
07. Service Bureau/ Pre-Press
08. Aerospace
09. Architecture, Engineering
10. Telecommunications
11. Government
12. Manufacturing
13. Education: College/ University/Trade
14. Education: High School/Elementary
15. Finance: Banking, Accounting, Insurance, Real Estate, Legal
16. Health, Medical
17. Non-Computer Retailer, Wholesaler, Distributor
18. Research and Development
19. Agriculture, Mining, Construction, Oil
20. Transportation, Utilities

Computer Related
22. Manufacturer (Computers, Software, Peripherals)
23. VAR, VAD, Systems/ Network Integrator
24. Retailer/Distributor
25. Systems House/Data Processing Service
26. Computer Consultant
27. Other Businesses and Services

99. Other_____ (please specify)

2 What is your job function?
(Select one only) Write Answer Here ➨

A. Networking/Data Communications
B. MIS/DP/Information Systems
C. Systems Engineering
D. Telecommunications
E. Graphic Arts/Design
F. Production/Pre-Press
G. Video Production
H. Audio Production
I. Communications/ Publishing/Public Relations/Advertising
J. Engineering/Architecture
K. Science/Research & Development
L. Education/Training/ Development
M. Manufacturing/ Operations/Production/ Quality Control
N. Administration/ Management/Personnel
O. Accounting/Finance/ Legal
P. Sales/Marketing
Q. Purchasing
R. Consulting
Z. Other_____ (please specify)

3 Which of the following brands of systems and/or applications software do you have installed at this *entire* location? (Check all that apply)

Operating Systems
☐01. System 7
☐02. System 6, 5 or earlier
☐03. Unix/Xenix/AUX/AIX
☐04. PowerOpen
☐05. Windows 3.X
☐06. Windows NT
☐07. Windows 95
☐08. NeXTStep
☐09. Solaris
☐10. OSF/Motif
☐11. Other_____ (please specify)

Network Operating Systems
☐13. Novell NetWare
☐14. Unix/NFS
☐15. LAN Manager
☐16. Banyan VINES
☐17. AppleShare
☐18. DEC PathWorks
☐19. Other_____ (please specify)

Groupware
☐21. Lotus Notes
☐22. Windows for Workgroups
☐23. FirstClass
☐24. Novell GroupWise
☐25. Apple Open Collaboration Environment (AOCE)
☐26. Other_____ (please specify)

Database Engines
☐28. Oracle
☐29. Sybase SQL Server
☐30. Ingres
☐31. Informix
☐32. 4D Server
☐33. DB2
☐34. Other_____ (please specify)

On-Line Services
☐36. America Online
☐37. CompuServe
☐38. e-World
☐39. Prodigy
☐40. Internet
☐41. Delphi
☐42. Genie
☐43. Other_____ (please specify)

4 Please indicate the quantities of the computers currently installed and indicate the computers planned for purchase in one year at this *entire* location.

(Write in accurate quantities for all that apply.)

	Currently Installed (Quantity)	PLAN TO PURCHASE
Macintosh/Compatible		
Apple Power Mac 8100	1.	1.☐
Apple Power Mac 7100	2.	2.☐
Apple Power Mac 6100	3.	3.☐
Radius Power Mac Compatible	4.	4.☐
Power Computing Power Mac Compatible	5.	5.☐
Daystar Power Mac Compatible	6.	6.☐
Other Power Mac Compatible	7.	7.☐
Macintosh Quadra	8.	8.☐
Macintosh Centris	9.	9.☐
Macintosh Performa	10.	10.☐
Macintosh PowerBook	11.	11.☐
Macintosh Duo	12.	12.☐
Macintosh Other (II, LC, SE, etc...)	13.	13.☐
Other Mac Compatible	14.	14.☐
Other Desktops		
IBM/Compatible Desktop/Laptop/Notebook	15.	15.☐
PowerPC (Non-Mac Compatible)	16.	16.☐
Workstation (SPARC, MIPS, HP/Apollo, etc.)	17.	17.☐
Other Microcomputers	18.	18.☐

USE NUMBERS ONLY

5A How many servers are installed at this *entire* location? (Use numbers only)

5B How many LANs are installed at this *entire* location? (Use numbers only)

5C How many Macintoshes are connected to the LANs indicated in Question 5B above? (Use numbers only)

6 If applicable: how many Macintoshes are sold, resold, or recommended in one year at this *entire* location? (Answer one only)

A. Retailer: Number sold per year_____
B. Reseller: Number resold per year_____
C. Consultant: Number purchased by your clients through your firm's recommendation per year_____
D. Other: Number sold/resold/recommended per year_____
☐ E. Not Applicable

7A Which of the following Macintosh-related products do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Systems
☐01. Apple Macintoshes
☐02. Mac Compatibles
☐03. IBM Compatible Micros
☐04. Servers
☐05. Workstations
☐06. Minis/Mainframes
☐07. Newton PDA
☐08. Pen-Based Computers

Networking
☐10. LANs
☐11. WANs
☐12. Mac to PC Links
☐13. Mac to Mini/ Mainframe Links
☐14. Mac to Unix Workstation Links
☐15. Modems
☐16. Communication/ Network Software
☐17. Bridges/Routers/ Gateways
☐18. Hubs
☐19. NICS

Printers
☐21. Laser
☐22. Color Laser
☐23. InkJet
☐24. Color InkJet
☐25. Dye Sub
☐26. Thermal Wax
☐27. Plotter
☐28. Portable Printer

Image Input
☐30. Digital Camera
☐31. Flatbed Scanners
☐32. Handheld Scanners
☐33. Slide Scanners
☐34. Drum Scanners
☐35. Black/White Scanners

Displays
☐37. 14 inch
☐38. 15 inch
☐39. 17 inch
☐40. 21+ inch
☐41. LCD Projection Panel
☐42. Presentation Monitors

Peripherals
☐44. UPS
☐45. External Speakers
☐46. Input Devices
☐47. Video Deck
☐48. Image Setter

Storage
☐50. Photo CD
☐51. Magneto Optical
☐52. RAID
☐53. Hard Drive 1 Gig +
☐54. Hard Drive < 1 Gig

Add-In Boards
☐56. CD Recorder
☐57. Memory Boards
☐58. Display Boards
☐59. Video Digitizer Boards
☐60. Accelerator Boards
☐61. Sound Boards
☐62. MIDI
☐63. Video Capture/ Compression

99.☐ None of the above

Your Signature _____

Title _____ Date ___/___/___

7B Which of the following systems and/or applications software do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Graphic Arts
☐01. Desktop Publishing
☐02. Electronic Publishing
☐03. Painting/Drawing Programs
☐04. Photo Retouching
☐05. Page Layout
☐06. Illustration Programs
☐07. Fonts
☐08. Pre-Press
☐09. Color Management
☐10. Digital Video
☐11. Other_____ (please specify)

Multimedia
☐13. Authoring Software
☐14. Video Editing
☐15. Sound Editing
☐16. Music Composition/ Editing
☐17. Animation
☐18. Clip Media (Sound and Art)
☐19. Other_____ (please specify)

Presentation Graphics
☐21. Presentation Software
☐22. Multimedia Presentations
☐23. Charting Program
☐24. Other_____ (please specify)

Design/Engineering
☐26. CAD/CAM
☐27. 2/D - 3/D Modeling
☐28. Simulation
☐29. Other_____

Business Applications
☐31. Word Processing
☐32. Spreadsheets
☐33. Databases
☐34. Project Management
☐35. Accounting/Payroll
☐36. Groupware
☐37. Desktop Video Conf.
☐38. Document Management
☐39. Mapping/GIS
☐40. Pen-Based Applications
☐41. Other_____ (please specify)

Systems Management
☐43. Operating Systems
☐44. Utilities
☐45. Applications Development
☐46. CASE
☐47. Programming Languages
☐48. Compilers
☐49. SQL Applications
☐50. Client Server Applications
☐51. Other_____ (please specify)

99.☐ None of the above

8 If you indicated purchasing involvement for computers, computer products or services in Question 7A or Question 7B, for how many Macintoshes do you have this involvement? (Select one only) Write Answer Here ➨

01. 2000+
02. 1000-1999
03. 500-999
04. 100-499
05. 50-99
06. 20-49
07. 10-19
08. 5-9
09. 1-4
99. None

9 For what applications are the Macintoshes at your location used? (Check all that apply)

☐ 01. Graphic Arts
☐ 02. Presentation Graphics
☐ 03. Multimedia
☐ 04. Design/Engineering
☐ 05. Business Applications
☐ 06. Systems Management
☐ 99. Other_____ (please specify)

10 Over the course of one year, do you specify, recommend, buy, or approve the purchase of host systems, desktops, networking products, peripheral equipment and/or software worth: (Write number in box)

1. $5,000,000 or more
2. $2,500,000 to $4,999,999
3. $1,000,000 to $2,499,999
4. $600,000 to $999,999
5. $400,000 to $599,999
6. $200,000 to $399,999
7. $100,000 to $199,999
8. $50,000 to $99,999
9. $25,000 to $49,999
10. $10,000 to $24,999
11. Less than $10,000
99. None

Product Category	For this location (Write number in box)	For other locations (Write number in box)
Host Systems (Mainframes/Minis)	A.	G.
Desktops/Portables (Micros/Workstations)	B.	H.
Networking Products (include Servers)	C.	I.
Peripheral Equipment	D.	J.
Software Products	E.	K.
Service/Support	F.	L.

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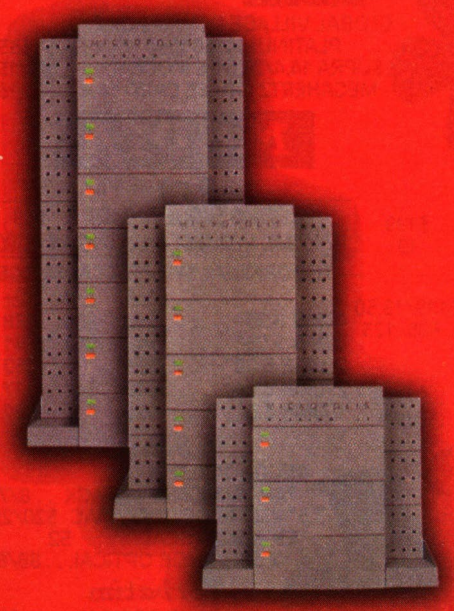

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4.3 GB	DT-14207AV	Conner NEW PRODUCT!	8.0 ms	5 yrs	**$950**	**$1,025**
4.3 GB	DT-3243AV	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	**$1,050**	**$1,125**
4.3 GB	DT-15150AV	Seagate Barracuda	8.0 ms	5 yrs	**$1,125**	**$1,225**
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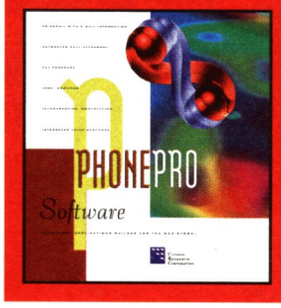

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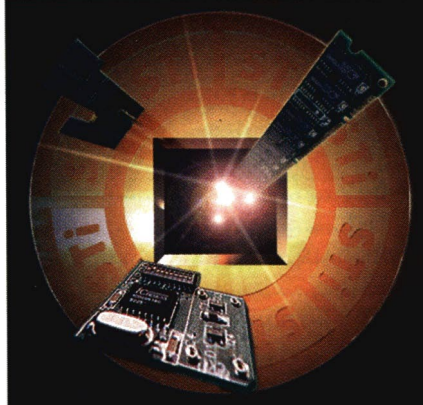

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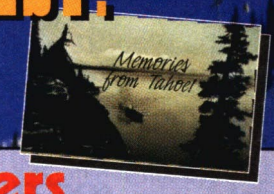

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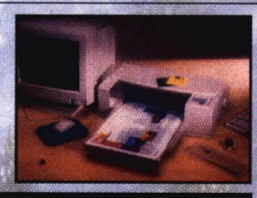

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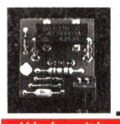

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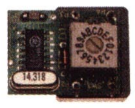

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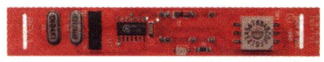

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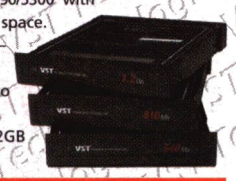

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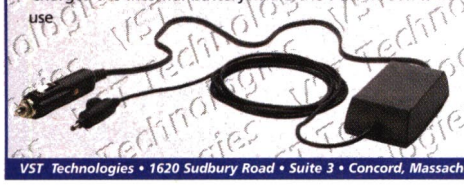

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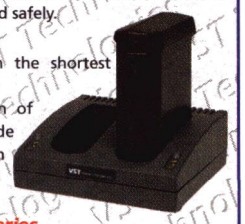

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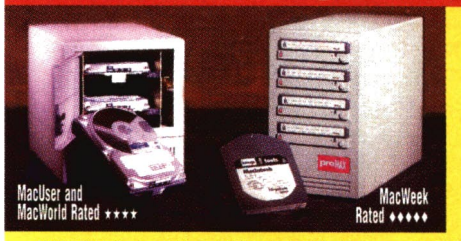

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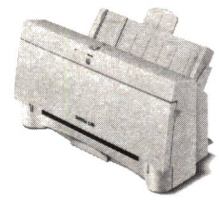

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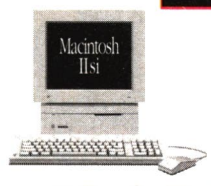

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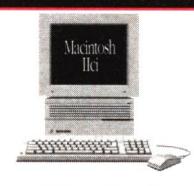

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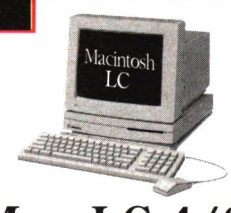

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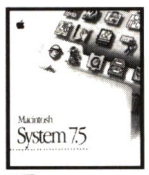

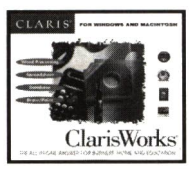

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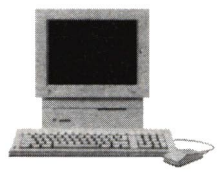

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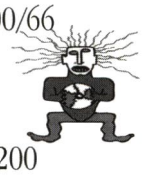

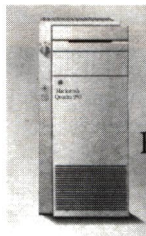

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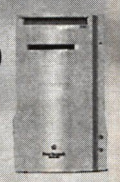

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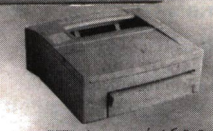

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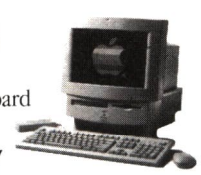

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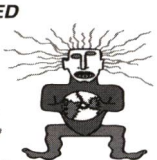

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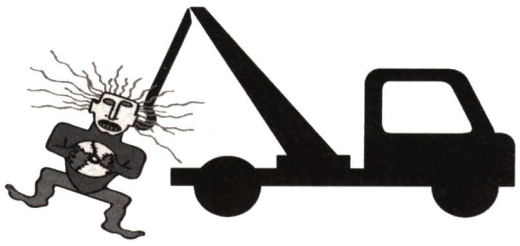

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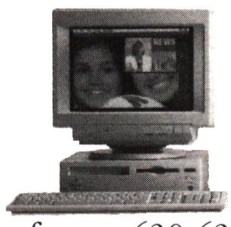

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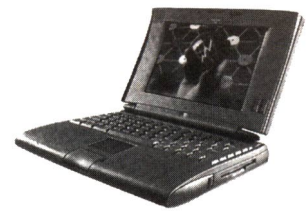

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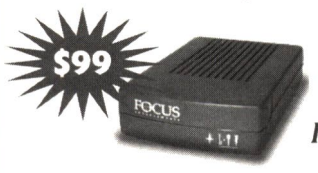

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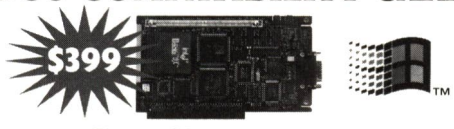

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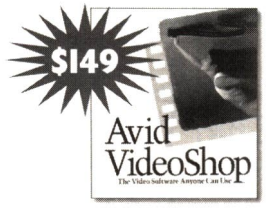

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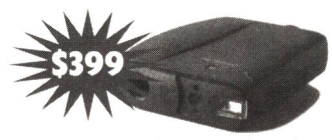

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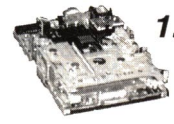

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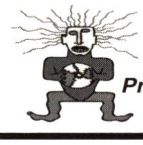

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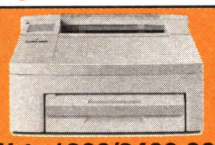

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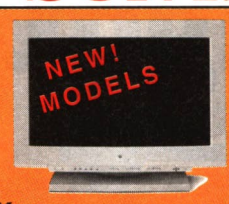

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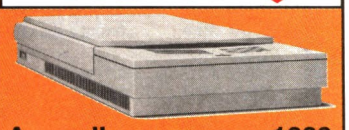

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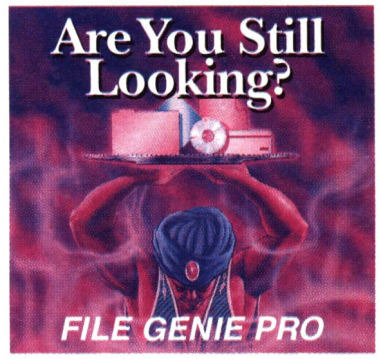

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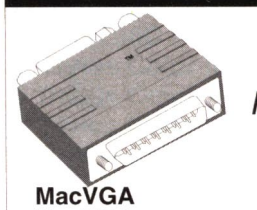

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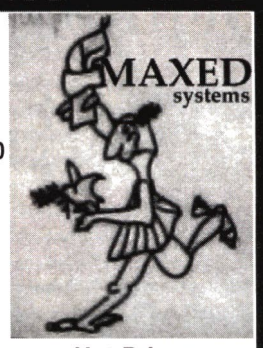

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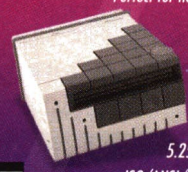

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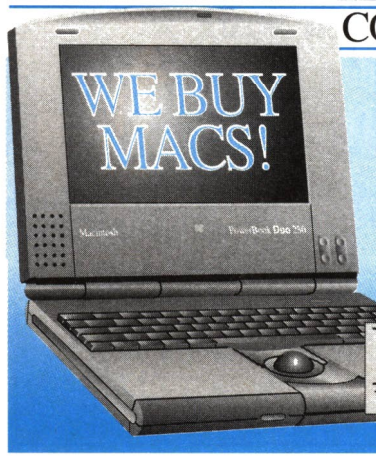

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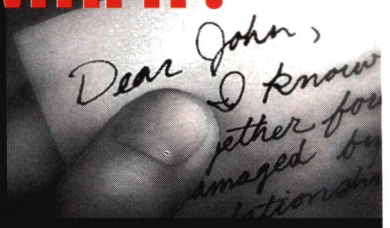

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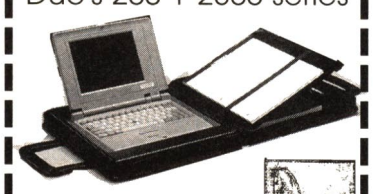

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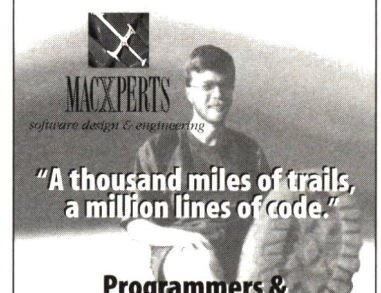

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Giving users a glimpse of Persuasion 4.0 features, Adobe's Web Presenter can publish Web slide shows with embedded links, PostScript graphics and sounds.

Slide shows for the Web

Web Presenter is more than just a derivative of Adobe Persuasion: It heralds features slated for the next version of the presentation package.

The software is the latest authoring tool in Adobe Systems Inc.'s Internet line; a pre-beta version is available from the company's Web site. Web Presenter lets users publish slide shows on the Web that contain high-resolution graphics, QuickTime movies, sounds and embedded hyperlinks.

Unlike other Web tools that convert slide shows into a series of HTML documents, Web Presenter saves an entire presentation as an Acrobat Portable Document Format file, which can be downloaded one slide at a time. Clients can view the presentations using Acrobat 3.0, code-named Amber, as a Web browser plug-in or as a helper application.

Web Presenter features the same interface, outliner and tools for master-slide creation as the $395 Persuasion.

Unlike its progenitor, the authoring tool lets users drag documents into the creation window from the Finder and from Adobe Photoshop and Illustrator.

Internet clients can cycle through the slides via a set of navigational buttons; Web Presenter doesn't support self-running presentations or transition effects.

Version 1.0 of Web Presenter is scheduled to ship this summer. Adobe said the software will initially arrive as a stand-alone package but later will be a component of Persuasion 4.0, for which no release date has been set.

Adobe Systems Inc. of Mountain View, Calif. can be reached at (206) 628-2749 or (800) 833-6687; fax (415) 961-3769; http://www.adobe.com. — *By James Staten*

Adobe

From Page 1

Corp., both of Mountain View, and Microsoft Corp. of Redmond, Wash., are also key to the strategy.

Adobe's first order of business was to introduce Bravo, its multiplatform 2-D imaging engine used in the company's flagship graphics products, as a platform- and device-independent graphics standard for the Web. It will be provided as an API, which will enable the development of products that display, print and manage high-fidelity graphics on the Internet.

The API will let 24-bit PostScript graphics be displayed with transparency in their native formats and PostScript fonts be anti-aliased on the fly.

Sun's JavaSoft subsidiary announced that it has licensed Bravo as the 2-D graphics API for Java.

"This is fantastic for Java," said Greg Galanos, president of Metrowerks Inc. of Austin, Texas. The language "doesn't have very much support for graphics, so this creates a richer environment and strengthens its access to native graphics on Mac and Windows."

Adobe, with Microsoft, announced OpenType, an open font standard that combines the TrueType and Type 1 font formats. Both companies are expected to propose the technology to various Internet organizations as the standard for embedding fonts in HTML documents. Adobe said this proposal will supersede previous agreements with Netscape and Apple. In February the three companies announced they were working on an open HTML 3.0 spec for embedding TrueType and Type 1 fonts in Web pages (see 03.04.96, Page 4).

Adobe predicted the now quartet of companies would agree on the OpenType standard. "It's in the interest of all parties to get [this standard] to work," said Adobe Chairman John Warnock.

A spokeswoman for Apple said this agreement is a move by Microsoft to join the standardization effort the other vendors announced in February. "Microsoft is coming into our camp," she said.

In addition to technologies, Adobe said it plans to increase its tools suite for creating Internet content. The first two new products will be an interactive multimedia authoring tool, code-named Vertigo, and an Internet-enabled version of Persuasion, code-named Web Presenter (see story, left).

Vertigo is an interactive multimedia authoring product based on the Bravo imaging model. With Vertigo, Adobe aims to deliver an environment for content creation and playback. Although Adobe gave few details on the product, it said Vertigo will enable Web publishers to combine graphics, sound and video in network- and CD-ROM-based applications.

Adobe President Charles Geschke acknowledged that Vertigo is an ambitious project that will not arrive until 1997. The company said Vertigo, like all its Internet products, would support both the Mac and Windows platforms.

Adobe said Vertigo will be targeted directly at Macromedia Director. Miles Walsh, vice president of marketing at San Francisco-based Macromedia Inc., said Adobe's announcements merely confirm that Macromedia has a significant lead over Adobe with its Shockwave technology. "These are things we're already shipping today," Walsh said. Dynamic media on the Internet "is a space currently dominated by Macromedia," he said.

Finally, Adobe announced plans to make printing from the Web easier. It demonstrated PrintMill, a client-server architecture for Internet printing services. The system is aimed at OEMs and value-added resellers for resale to printers, service bureaus and large organizations (see 04.29.96, Page 1).

Adobe said it will develop, distribute and support Microsoft ActiveX Documents and ActiveX Controls, and will work with AT&T Corp. to provide AT&T WorldNet Service customers with Web publishing capabilities.

Chris Le Tocq, director of software research at Dataquest Inc. in San Jose, Calif., said Adobe seems to be working feverishly on its Internet plans. "But if you're going to talk strategy, you have to be more definitive about your schedule," he said. "They put a lot on their plate. The question is whether it was the appetizer or entree."

Craig Cline, vice president of programs at Seybold Seminars called Adobe's announcements "an impressive sweep" that "really makes them a player in the Internet." However, Cline noted that Adobe's announcements did not extend to the 3-D environment. He said that Geschke and Warnock "seemed defensive about 3-D."

Amy Wohl, editor of TrendsLetter of Narberth, Pa., said she is anxious for tangible results. "I want to see code," she said. "I want to see shipping product." □

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WWDC

From Page 1

crosoft Windows, with its promise of numerous tools and Microsoft's copious developers services, is alluring.

"Developers are coming to see if all the restructuring is real or if this is another day in the life of Apple Computer," said Alex Kosarow, vice president of Pictorius Inc., a client-server tools maker based in Halifax, Nova Scotia.

"If Apple fails — if developers walk away shaking their heads — a lot of developers may say, 'It's time to bite the bullet and develop for Windows.' "

Many developers said the direction that CEO Gilbert Amelio and Vice President of Internet Technologies Larry Tesler point to will play a big part in their development plans.

"I am seriously considering moving to Windows, and a lot depends on what Apple says this week," said Kevin Killion, president of Stone House Systems Inc., a custom software developer in Kenilworth, Ill. "I need to know where they are taking this ship."

Several developers said the opportunity to develop for Windows can be enticing. "You phone Microsoft and they say, 'How can I help you, what can I get you?' " Kosarow said. Apple, however, has never had an overall direction to help third-party tools vendors, he added.

"It is sort of like courting a woman who doesn't want to go out with you: You start looking elsewhere," said David Eoff, director of sales and marketing for Mountain View, Calif.-based Brossco Systems Inc., developer of a Mac-only data-analysis tool. "We're not turning our back on Apple, but we are pushed by our customers to bring out a Windows product."

Developers said Apple must demonstrate at WWDC that it will start doing a better job of providing the tools they need to do their work. "Somebody has dropped the ball," Killion said. "While Apple was chasing Bedrock and Taligent, the Windows side was using Delphi and Visual Basic."

Kunysz said, "They have a bunch of engineers that haven't done reality checks to see what the market wants."

Apple must also address the lack of retail shelf space for Mac software, developers said. Berkeley Systems Inc. of Berkeley, Calif., recently reversed a long-standing policy of developing all its products for the Mac. Its new Internet utility suite, Web.Max, is Windows-only.

"We're not pleased about it, but it's the right choice for our business," said Julie Wainwright, president and chief operating officer of Berkeley Systems. "Our primary distribution is through the retail channel, and we can't get our Mac versions on the shelves." She said the squeeze was felt most when Windows 95 arrived, pushing Berkeley's most popular title, After Dark, off many dealers' racks.

Developers said a strong Internet strategy from Apple will help them contend.

"To seriously compete in the Internet space, you have to be at least Mac and Windows," said Mark Bonacorso, director of marketing and communications at Mountain View, Calif.-based First Floor Software, makers of Smart Bookmarks, an organizer for URLs (uniform resource locators) that's coming to the Mac this summer. The tool is already available on Windows.

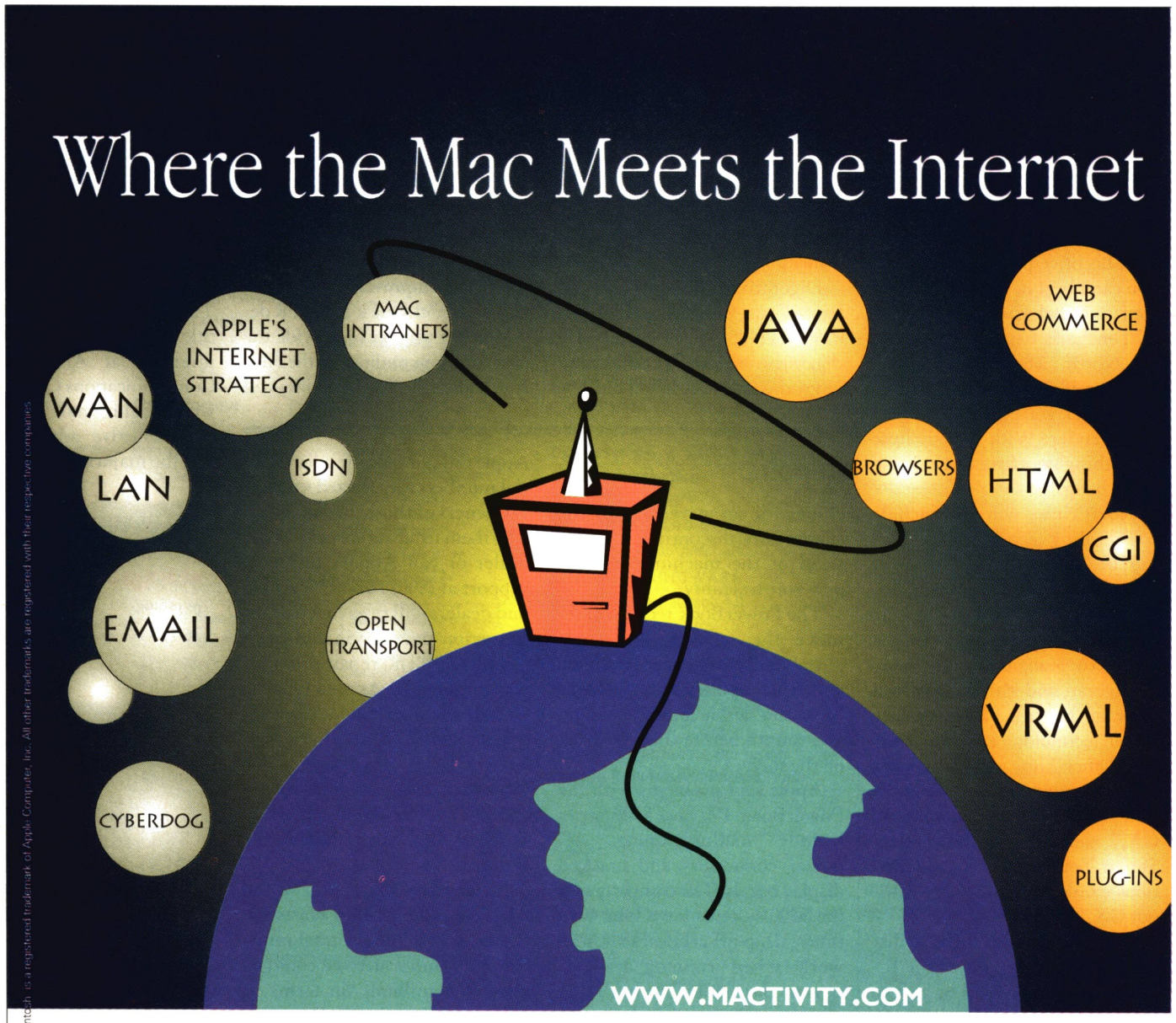
Figures suggest that recent uncertainty surrounding Apple has not reduced the number of Mac developers.

"The number of registered companies in the Apple Developer Program has not declined over the past 12 to 18 months," said Jonathan Fader, director of Apple's developer marketing. In fact, Fader said that in the first quarter of 1996 the company registered three times the number of new developers as in the first quarter of the previous year.

Neil Ticktin, publisher of MacTech, a magazine for Mac programmers, offered further evidence of developer strength. "We have seen a surge in our subscriptions over the past year," he said. "I think our growth is a reflection of the industry."

Developers confirmed that they will continue to stick by the Mac. "There are a lot of smaller companies busting their butts to make Apple successful," Kunysz said. "Apple simply has to do what is right to make it work." □

Monica Campbell and James Staten contributed to this report.



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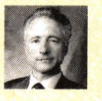
Larry Tesler
Vice President Internet Platforms
Apple Computer Inc.



How to Drive Your Competition Crazy
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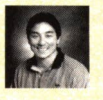
Apple Fellow



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MoviEclipse *From Page 1*

their digitized video segments into a bin and selecting them.

Most QuickTime-compatible audio or video formats will be imported, the company said. With its Autoload button, MoviEclipse will automatically order clips and add random transitions between them. If users prefer, they will be able to arrange video sequences and transitions manually.

In addition to its simple interface, the software will provide rapid video playback. Although playback rates depend on the user's processor speed, rendering is not required; users can view their changes as they make them.

"This price/performance ratio, you can't beat it," said beta tester Yen Yencharis, proprietor of Yencharis Consulting Group of North Massapequa, N.Y. "The problem of nonlinear editing is when you go back and have to re-render. With MoviEclipse everything goes into place: bang, bang, bang."

MoviEclipse will also include basic titling capabilities. Titles can be added in a window or pasted in from the Mac Clipboard, but users will not be able to import text directly from a word processing program.

Digerati said MoviEclipse will leverage heavily off some core Apple technologies: QuickDraw GX, QuickTime and ColorSync. "It's a combination of our real-time engine and [QuickDraw] GX," said Digerati President Stefan Youngs. The fast transitions would be "impossible without GX," he said.

Initially, Digerati plans to distribute MoviEclipse over the Internet. Customers will be able to download a timed demonstration version and then order the full version of the product by telephone. A version of the software with no documentation will cost $199, the company said.

MoviEclipse will run on Power Macs with 8 Mbytes of RAM and require 3.5 Mbytes of hard disk space. Digerati said it also plans to develop a version for 680x0-based Macintoshes.

MoviEclipse's open architecture will support third-party plug-in transitions but not those that work with Adobe Premiere or Photoshop; Digerati plans to publish an API.

Although hardware video boards are not required, the company said it plans to bundle MoviEclipse with hardware video-digitizing boards from several vendors.

"Here's a company who actually thought about a core technology in a totally new way," said John Cook, manager for digital media systems at Apple. "They basically took advantage of something Apple gives away for free and solved some traditional hardware problems in software."

According to Digerati, the underlying technology of MoviEclipse is also capable of high-end video editing.

The company plans to release a professional version sometime this fall. The higher-end version will have an unlimited number of video tracks, matte transitions with different shapes, alpha channel support for transitions and other more-sophisticated transitions.

Digerati Multimedia Inc. of Santa Cruz, Calif., is at (408) 454-0239; fax (408) 454-9183; service@digerati-multimedia.com; http://www.digerati-multimedia.com. □

QuickTime VR *From Page 1*

VR elements; and dynamic directional sound, which causes sounds to seem softer as viewers move away from the source.

Developers will be able to manipulate QuickTime VR's memory usage and control the compositing of several types of media into panoramas. These media types are QuickTime sprites (small independent animation elements), QuickTime movies, QuickDraw 3D objects and still images.

- **Embedded URLs.** Hot spots, specific regions in objects or panoramas that trigger actions when clicked, will connect QuickTime VR 2.0 to Internet documents. For example, clicking on a library in a VR map of a college campus could bring up the library's Web page.
- **Tool improvements.** Apple will update its QuickTime VR development utilities to provide the new functions outlined in the API. In addition, the Stitcher utility will require less memory, and its reliability will be better, Apple said.

The Version 2.0 announcement at this week's Apple Worldwide Developers Conference in San Jose, Calif., will mark the first time that developers have been given a firm API schedule.

"The API was a big issue," said Bud Smith, QuickTime VR product marketing manager. "Apple should have provided that earlier and set expectations more clearly as to when it would be provided."

Smith outlined the schedule, which included the April beta release of two QuickTime VR utilities (see 04.15.96, Page 16). Next week, Apple will distribute the first developers release of the API and host a developers-training "kitchen" to get feedback. A second developers release is planned for July.

The improvements to QuickTime VR will be well suited to title developers. Edward Coderre, producer at AND Interactive Communications Corp. of Hollywood, Calif., said: "We're doing an interactive adventure game, and the majority of the engine relies on QuickTime VR and QuickTime. What we're looking for most of all is dynamic audio and the ability to add sprites, video or animations into the VR nodes.

"We've been putting that stuff in using [Macromedia] Director, but we're not satisfied with that solution. The new API will really streamline things for us once it comes out," Coderre said.

But some developers said features they need are still missing. To stitch separate images into a single panorama, for example, developers must use scripts in the Macintosh Programmer's Workshop development environment.

"We want to be able to dice and stitch and provide the distortion so that we can export a ready-to-play QuickTime VR panorama," said Jim Boyd, corporate technical liaison at 3-D developer Strata Inc. of St. George, Utah. "If that hasn't been done in the API, it hasn't met our needs. Let's get rid of the MPW scripts and let me do it in my application."

The QuickTime VR site is at http://qtvr.quicktime.apple.com. □

Repairs *From Page 1*

chines for seven years after the systems are discontinued — instead of the machines' regular one-year warranty.

The PowerBook recall will remove the majority of Apple portables from the retail channel, and Apple spokeswoman Nancy Morrison said it could be as long as a month before they are back on the shelves.

Apple said problems with the PowerBook 190 and 5300 series include malfunctioning AC power connectors and cracked display bezels. The company said the 5300 systems have long boot times, drop off a LocalTalk network when running on AC power, and exhibit crashes when using a media bay device and PC Card simultaneously.

PowerBook owners experiencing problems may call the company to see if they qualify for the free repair program; Morrison said Apple will soon announce a toll-free number those users can call to schedule repairs.

According to the company, the recall program affects only machines experiencing the problems detailed by Apple; those machines will be repaired free. Systems not exhibiting those specific problems will be repaired under regular Apple policies.

Dealers will repair 52xx, 53xx, 62xx and 63xx systems if the Macs crash or freeze because of known component issues caused by ROM, cache and clock chips. Machines experiencing changes in monitor hue will also be fixed. Apple did not provide a list of serial numbers for affected units.

Owners of those machines can take them to an authorized Apple dealer or call Apple's technical support at (800) 767-2775. Apple said dealers will receive repair information and parts in mid-May.

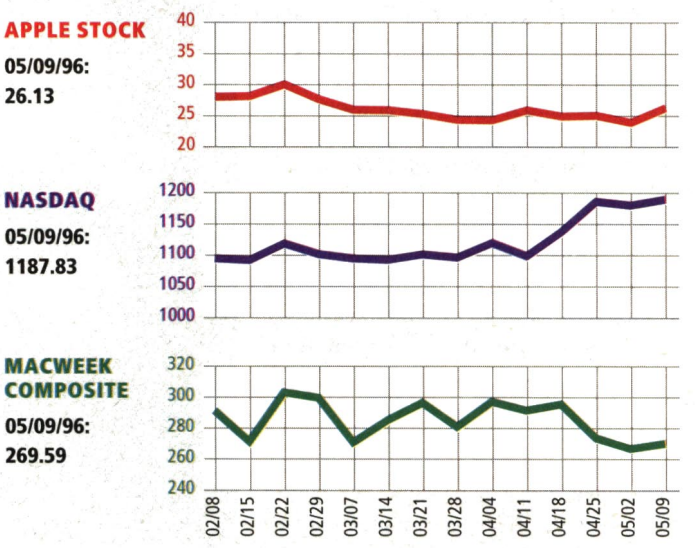
The recall and repair program was initiated by Apple's Quality Council, a group addressing quality control issues that is run by Frederick Forsyth, senior vice president for worldwide operations (see 04.08.96, Page 1). Forsyth was unavailable for comment.

Pieter Hartsook, editor of the Alameda, Calif.-based Hartsook Letter, said while the total number of machines affected could be close to 1 million, "in terms of dealer recall, we're dealing with very small numbers." Hartsook said he didn't think the recall was a big deal. "They were trying to get the problem fixed as quickly as possible. Apple's doing the right thing."

Ken Lim, chief futurist at The CyberMedia Group of Cupertino, Calif., said the announcement was bad timing because of this week's Apple Worldwide Developers Conference. "This is supposed to be the feel-good time of the year for Apple.

"Computers crash all the time, and it's due to so many potential factors," Lim said. "How is a customer supposed to know that the crashes they're experiencing are due to a particular hardware problem? I don't know how customers would know to bring in their machine." □

StockWatch



	05.09.96 CLOSE	WEEKLY CHANGE
Apple	26.13	2.38
MacWEEK Composite*	269.59	3.39
SOFTWARE DEVELOPERS		
Adobe	39.38	-2.00
Caere	11.13	1.50
CE Software	2.38	-0.13
Fractal	12.75	0.25
Graphsoft	5.50	-0.13
Insignia	8.63	0.75
Intuit	51.50	0.50
Macromedia	35.75	-1.25
Microsoft	113.50	1.88
Novell	14.06	0.19
Oracle	33.63	0.75
Symantec	15.00	-0.50
STORAGE		
Iomega	63.38	6.00
Pinnacle	10.00	-0.25
Quantum	22.94	0.56
Seagate	55.75	-2.88
SyQuest	4.94	-1.00

	05.09.96 CLOSE	WEEKLY CHANGE
PERIPHERALS VENDORS		
AmeriQuest	0.81	0.00
Asanté	6.75	0.25
Focus	3.69	0.75
Global Village	17.69	0.44
HP	104.25	0.00
QMS	6.13	-0.13
Radius	3.94	0.19
Shiva	61.50	3.25
Tektronix	37.38	-2.13
Truevision	8.50	-0.75
DISTRIBUTORS		
CompUSA	36.25	1.50
IE	9.75	1.00
Merisel	4.25	0.56
Tech Data	19.75	0.25
INDUSTRY INDICATORS		
Compaq	46.38	-0.25
IBM	107.00	-0.88
Intel	68.63	0.63
Motorola	60.13	-0.50
SGI	27.50	-1.63
NASDAQ	1187.83	9.50

**The MacWEEK Composite is calculated by adding the stock prices of the following companies: Apple, Adobe, Asanté, Caere, CE Software, Global Village, Intuit, Macromedia, Radius, Shiva, SyQuest and Truevision. Source: Nordby International Inc.*

Montana

From Page 1

Inc. of Schaumburg, Ill., may not be able to produce speedy 604e processors in the quantities Apple requires, so introductions may slip to January.

Apple is reportedly considering releasing the Power Mac Pro systems in 166-, 180- and 200-MHz speeds (see 03.18.96, Page 1). It is also looking at using a 225-MHz version of the 604e chip in a high-end Montana box, but, again, the processor may not be available in time to meet Apple's schedule.

Sources said Apple is looking at several forms of removable media in Montana systems, such as CD-Recordable drives and Iomega Corp.'s Zip and Jaz drives. Storage architectures such as Serial Storage Architecture, Fibre Channel SCSI and 1394 are also under consideration. Other offerings in Montana may include an 8x CD-ROM drive, multiple processors, and video-in and -out.

Some Montana Macs will reportedly come in a new, larger enclosure that includes four 5.25-inch drive bays, three 3.5-inch bays, six PCI slots and the capability to add multiple processors.

Sources were less clear about Apple's plans at the low end of the spectrum but said a key component of Apple's entry-level system plans for the short term is a machine code-named Instatower, which is reportedly due to ship in July (see 04.01.96, Page 1).

Apple has reportedly increased the Instatower's speed from its original 120-MHz plan to 140-, 160- and 180-MHz 603e-based versions. Aimed at both consumers and entry-level business users as a multimedia tower, Instatower configurations will cost between $2,000 and $3,000.

Instatower may include a 6x CD-ROM drive, 28.8-Kbps modem, video-in card, TV-tuner card and a digital video-editing card, according to sources. Apple is also considering introducing Digital Video Disc (DVD) technology in a July Instatower model, but sources said they doubted whether DVD would be ready for inclusion by that time.

In related news, Motorola this week will reportedly announce the immediate availability of PowerPC 603e processors running at 166, 180 and 200 MHz; that family has often been called the 603ev because it was code-named Valiant. Sources said the processors' availability is great news given Apple's plans to include those chips in upcoming desktop and PowerBook machines (see 05.06.96, Page 1).

Apple and Motorola declined to comment. □

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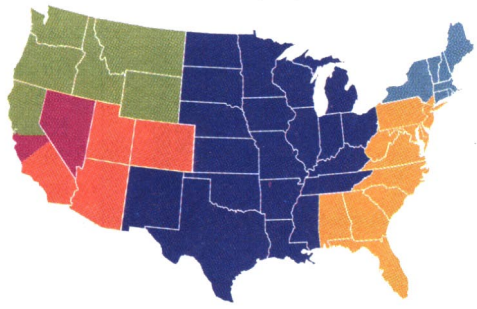

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[3] Includes San Francisco Bay Area south of the San Mateo Bridge to San Luis Obispo

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Online this week

ZDNet Keeping tabs on WWDC

If you're not in San Jose, Calif., to catch the action at the Apple Worldwide Developers Conference, don't worry. MacWEEK will be there to cover all the breaking news. Check out our Web site to catch our coverage throughout the conference.

Beat it, Big Blue

Read Mark Hall's column about Apple's relations with IBM. With friends like this ... (http://www.zdnet.com/macweek/mw_1019/opinion_otr.html).

Where to find us online

On CompuServe, the MacWEEK Forum is at go zmc:macweek and the MacWEEK News menu is at go zmc:mwnews.

In search of the Macintosh elite

As faithful readers of this column are no doubt well aware, the Knife is a simple fellow with simple tastes. Truth to tell, he has always regarded himself as a regular Joe who likes nothing more than a quick polo match with the guys in the car pool, a jaunty little pinot noir at the local diner and perhaps a rousing after-hours reading of "Finnegans Wake" with MacWEEK's tireless janitorial staff to make the workaday world fade into insignificance.

No, no one could ever accuse *this* kitchen utensil of cultural elitism. Nevertheless, the bewildering welter of Macky-come-latelies springing onto the scene in the wake of the OS-licensing drive is enough to make him long for the simpler days when Apple Brahmins ruled the roost and a simple trip to Cupertino's dumpsters could keep a rumor columnist happy as a pig in a shirt.

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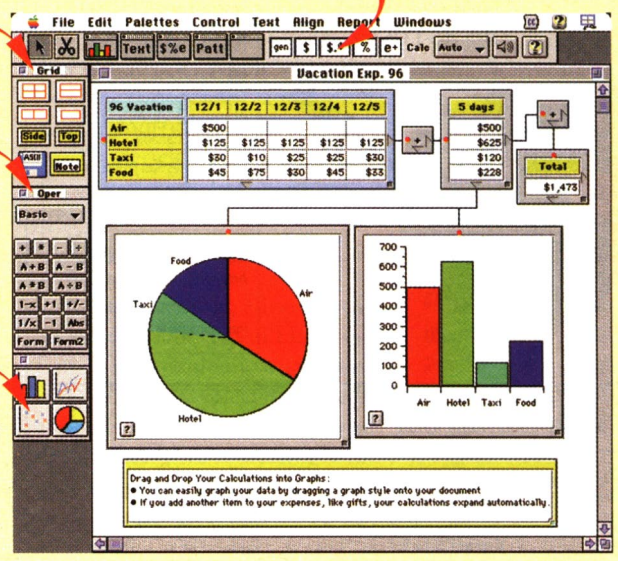

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Hot rodding

Take those upstart Mac cloners from (shudder) Flowery Branch, Ga. The Knife's old-boy network informs him that if there's anyone left at DayStar by August, the company hopes to push the CPU speed limit at Macworld Boston with a four-processor Mac knockoff expected to clock in at a disconcerting 200 MHz. Even the *Taiwanese* will be getting into the *nouveau Mac* act at the show, when UMAX rolls out two new boxes based on the 603e and 604.

Work also continues apace on UMAX's fabled all-in-one, entry-level model, although the gang in Taipei still hasn't honed the machine's dual-processor API or plumbed the varied relationships among its custom chip sets and the PowerPC Platform spec. Not content with this incursion into the CPU circle of its elders and betters, UMAX will introduce at Macworld a color version of its PageOffice scanning, fax and OCR suite, which is aimed straight at PaperPort, Visioneer's monochrome cash cow.

Exponential algebra

Yes, indeedy; sometimes it seems that just about *anybody* can get an OS license nowadays. The locker room down at the Knife's club has been abuzz this week with reports of clone plans from PowerPC neophyte Exponential Technology. The Knife can't find a seat in the sauna without hearing some graying plutocrat decrying the sheer *cheek* of Exponential's approach. While still struggling with its day job of creating 500-MHz PowerPC CPUs to pop into current and future Macs, the company apparently is working nights as well, lending its high-speed savvy to Apple's rustically named Montana line of Power Macs in exchange for an operating system license.

Ye gods! The way things are going, the Knife fears that next thing we know, Gil Amelio will be offering the Mac OS to the household help in lieu of overtime.

That old gang of mine

Given this topsy-turvy state of affairs, is an exodus of the Mac Old Guard any surprise? The Knife's frat brothers, with whom he shared many a tube of lip gloss during Hasty Pudding productions at Laguna Honda Community College, are again sounding the alarm about defections from the Mac camp in favor of déclassé operating systems from Redmond and other logging communities.

According to Biff, Podgey, Chip and all the rest, the decidedly non-Ivy League University of California at Davis will soon become PC-only, and not in George Bush's sense of the word. Meanwhile, Motorola's Paging Products Group in a place called Boynton Beach, Fla., is on the verge of casting off its 2,500-some-odd Macs in favor of Windows NT boxes. And according to the Greek grapevine, not even the staid consultants at Ernst & Young are immune to a bit of Wintel slumming; they, too, are preparing to write off the Mac *en masse*. □

Defend the status quo and garner status-enhancing drinkware! Lob your tips to the Knife at (415) 243-3544; fax (415) 243-3651; mac_the_knife@macweek.com.

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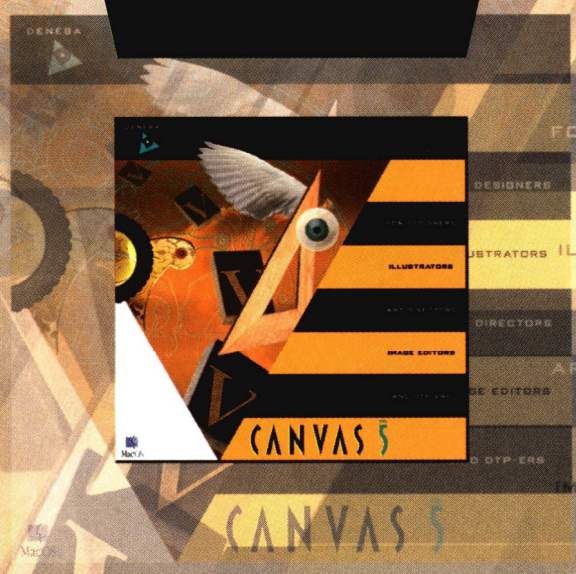

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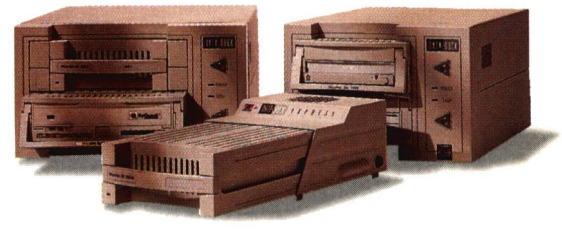

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